


DP-IF5100

SERVICE MANUAL

Ver 1.1 2000. 02



*US Model
Canadian Model
AEP Model
UK Model
E Model*

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- DP-IF5100 is the component model block one in MDR-DS5100.

COMPONENT MODEL NAME FOR MDR-DS5100

DIGITAL SURROUND PROCESSOR	DP-IF5100
CORDLESS STEREO HEADPHONES	MDR-IF5000

SPECIFICATIONS

Modulation System	Frequency modulation
Carrier wave frequency	Right channel 2.8 MHz Left channel 2.3 MHz
Transmission distance	Approx. 10 m to the front
Transmission range	20 – 20,000 Hz
Distortion rate	1% or less (1 kHz)
Audio inputs	Optical input (rectangular-type) × 1 Analog input (pin jack left/right) × 1
Power requirements	DC 9 V (from the supplied AC power adapter)
Dimensions (w/h/d)	Approx. 85 × 190 × 180 mm (3 3/8 × 7 1/2 × 7 1/8 inch)
Mass	Approx. 1.0 kg (1000 g) (2 lb 30 oz)

Design and specifications are subject to
change without notice.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

DIGITAL SURROUND PROCESSOR

SONY®

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6. EXPLODED VIEW

7. ELECTRICAL PARTS LIST

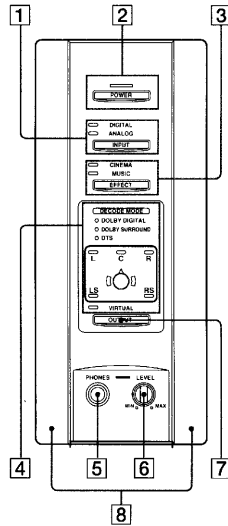
SECTION 1 GENERAL

This section is extracted from instruction manual.

Preparation

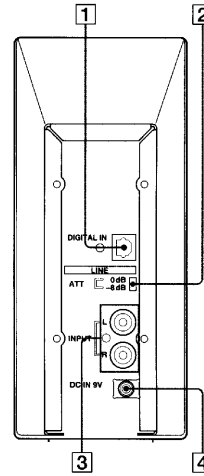
Location and Function of Parts

Front Panel of the Digital Surround Processor



- 1 **DIGITAL input indicator**
ANALOG input indicator
INPUT button
Press to select the input source (DIGITAL/ANALOG).
- 2 **POWER indicator**
This indicator lights green when you turn on the digital surround processor.
POWER switch
Press to turn on and off the digital surround processor.
- 3 **CINEMA indicator**
MUSIC indicator
EFFECT button (see page 21 for details)
Press to select the sound field (CINEMA/MUSIC).
- 4 **Decode mode display** (see page 23 for details)
- 5 **PHONES jack** (see page 27 for details)
Connect your headphones to this jack. Connect the MDR-F1 headphone (sold separately) for optimum surround effect.
- 6 **PHONES — LEVEL control**
Turn to adjust the volume of the headphones (sold separately) connected to the PHONES jack.
- 7 **OUTPUT button**
Press to select the output mode (OFF/VIRTUAL FRONT/VIRTUAL SURROUND).
- 8 **Infrared emitter**
Set the emitter in a position so that there is a straight, unobstructed path to the sensor.

Rear Panel of the Digital Surround Processor



- 1 **DIGITAL IN jack** (see page 14 for details)
Connect a DVD player, LD player, or other digital component (sold separately) to this jack.
- 2 **ATT (attenuator) switch**
Set this switch to 0dB when the volume is too low at analog input. Normally, this switch should be set to -8dB.
- 3 **LINE INPUT jack** (see page 15 for details)
Connect the audio output jack on audio/video equipment (sold separately), such as a video cassette player or TV, to this jack.
- 4 **DC IN jack**
Connect the supplied AC power adapter to this jack. (Be sure to use the supplied AC power adapter. Using products with different plug polarity or other characteristics can cause a malfunction.)

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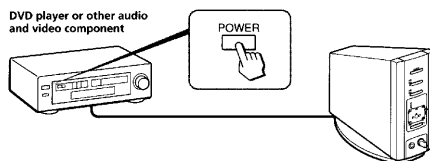
Preparation 5GB

6GB Preparation

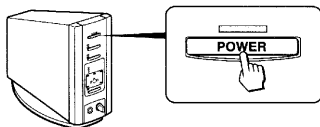
Listening to the Sound of the Connected Component

Before starting operation, be sure to read "Connecting the Headphone System" and make the proper connections.

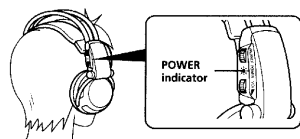
- 1 Turn on the component connected to the digital surround processor.



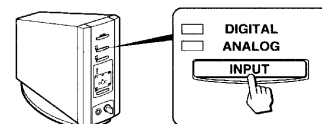
- 2 Press POWER to turn on the digital surround processor.
The POWER indicator lights green.



- 3 Put on the headphones.
The POWER indicator lights red, and the headphones automatically turn on.



- 4 Press INPUT to select the component you want to listen to.

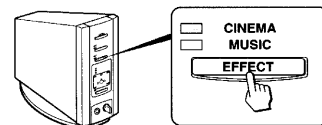


Indicator light	Selected sound source
DIGITAL	Sound of the component connected to DIGITAL IN jack
ANALOG	Sound of the component connected to LINE INPUT jacks

Note

To listen to dual audio (MAIN/SUB) sound sources, connect to the LINE INPUT jacks, and then select the sound source you want to listen to on the player, TV, or other component.

- 5 Press EFFECT to select the desired sound field.



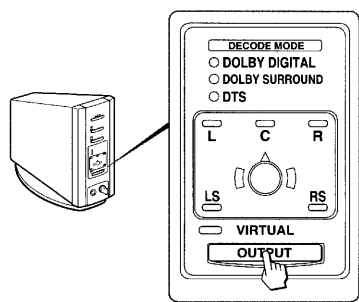
Indicator light	Sound field and suitable sound source
CINEMA	Mode which reproduces the sound field of a movie theater. This mode is suitable for movie sound sources.
MUSIC	Mode which reproduces the sound field of a listening room with good acoustic environment. This mode is suitable for music sources.

(Continued)

20GB Operation

Operation 21GB

6 Press OUTPUT to select the output mode (surround effect).

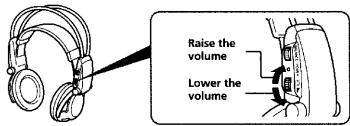


Indicator light	Output mode (surround effect)
<div><div>DECODE MODE</div><div>DOLBY DIGITAL</div><div>DOLBY SURROUND</div><div>DTS</div></div> <div><div>L</div><div>C</div><div>R</div><div>LS</div><div>RS</div></div> <div>VIRTUAL</div>	OFF Regular headphone playback.
<div><div>DECODE MODE</div><div>DOLBY DIGITAL</div><div>DOLBY SURROUND</div><div>DTS</div></div> <div><div>L</div><div>C</div><div>R</div><div>LS</div><div>RS</div></div> <div>VIRTUAL</div>	VIRTUAL FRONT Virtual effect where the sound seems to be coming from two speakers (right and left) located in front of you.

Indicator light	Output mode (surround effect)
<div><div>DECODE MODE</div><div>DOLBY DIGITAL</div><div>DOLBY SURROUND</div><div>DTS</div></div> <div><div>L</div><div>C</div><div>R</div><div>LS</div><div>RS</div></div> <div>VIRTUAL</div>	VIRTUAL SURROUND Virtual surround effect where the sound seems to be coming from not only two front speakers (right and left), but also from one center speaker, two rear speakers (right and left), and a subwoofer (when DOLBY DIGITAL and DTS are lit). The digital surround processor automatically identifies and processes according to the format of the input audio signal. When DOLBY DIGITAL indicator is on: Audio recorded in Dolby Digital 5.1ch format is being processed. When DOLBY SURROUND indicator is on: Audio recorded in Dolby Surround (Pro Logic) format is being processed. When DTS indicator is on: Audio recorded in DTS 5.1ch format is being processed.

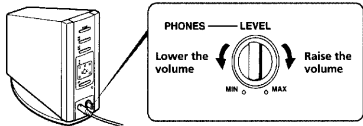
- Notes**
- The processor automatically recognizes the decode mode (DOLBY DIGITAL/DOLBY SURROUND/DTS), and the respective indicator light turns on. Select Dolby Digital or DTS audio for the audio output at the connected player.
 - The decode mode becomes DOLBY SURROUND in the following cases.
 - When the signal received by digital input is PCM
 - During analog input

7 Adjust the volume.



To adjust the volume of headphones (sold separately) connected to the PHONES jack

Turn PHONES—LEVEL to adjust the volume.



Note
When watching movies, be careful not to raise the volume too high in quiet scenes. You can hurt your ears when a loud scene is played.

(Continued)

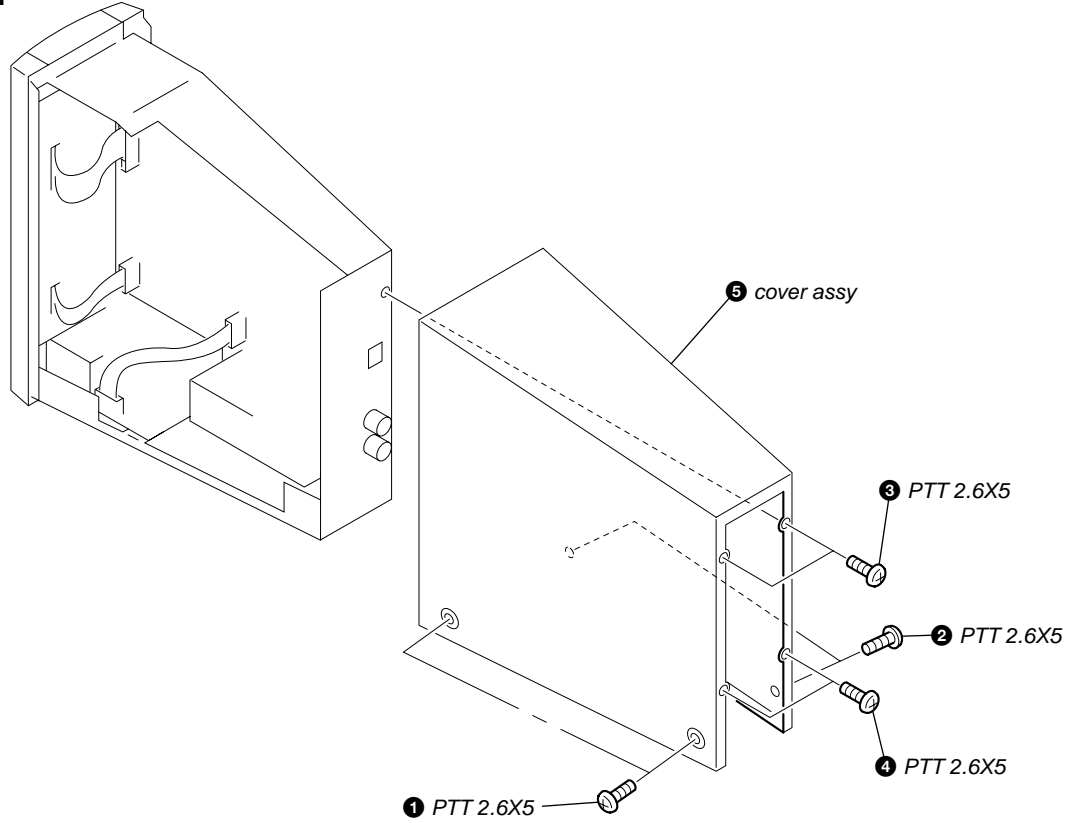
SECTION 2 DISASSEMBLY

- The equipment can be removed using the following procedure.

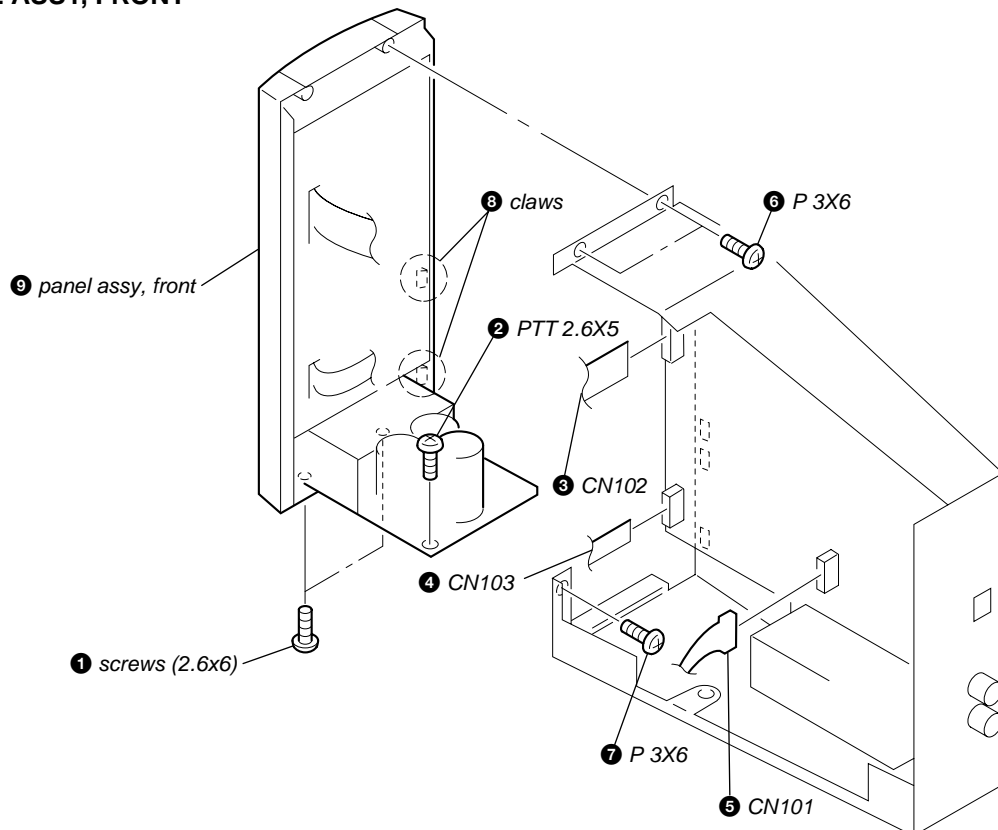
Set → Cover assy → Panel assy, front → Panel assy, sub
 TX board

Note : Follow the disassembly procedure in the numerical order given.

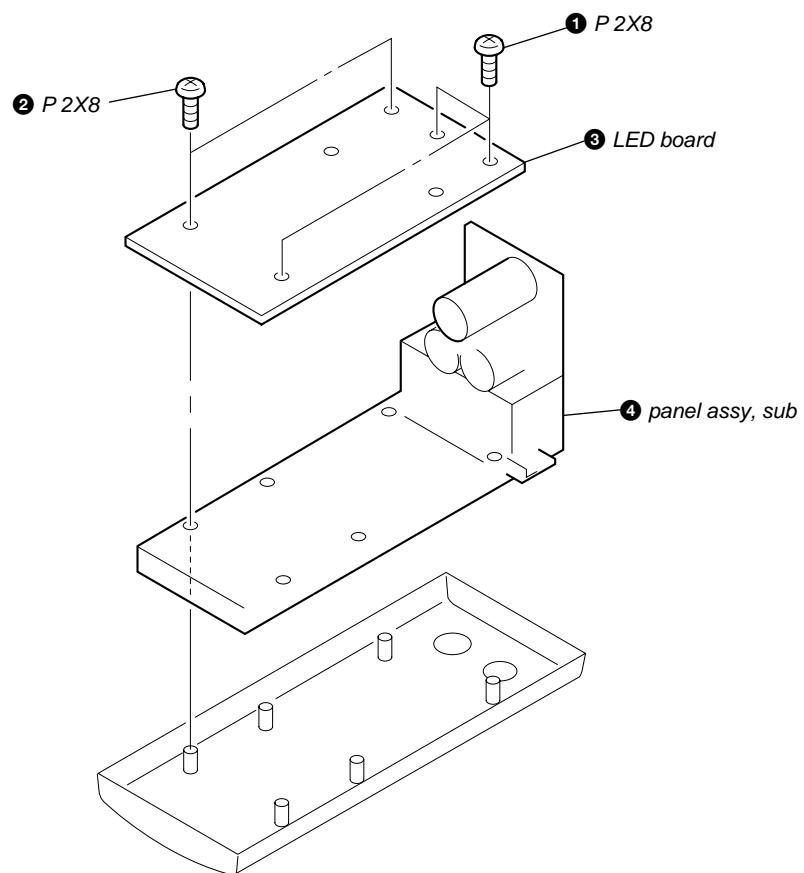
2-1. COVER ASSY



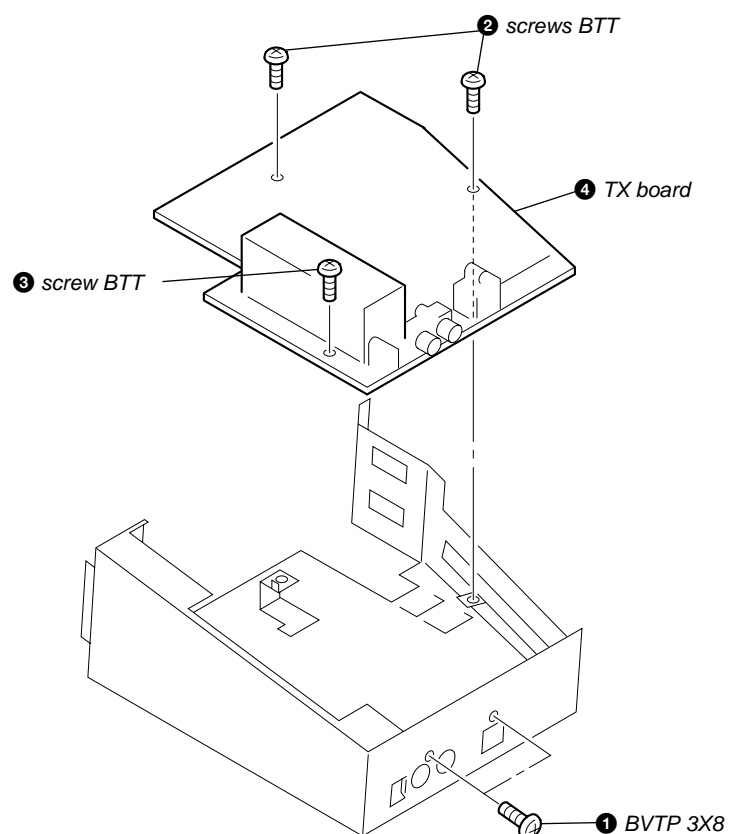
2-2. PANEL ASSY, FRONT



2-3. PANEL ASSY, SUB



2-4. TX BOARD



SECTION 3 SERVICE MODE

3-1. GENERAL

This set has the test mode of the built-in microprocessor which allows various check items required repairing.

3-2. SETTING THE TEST MODE

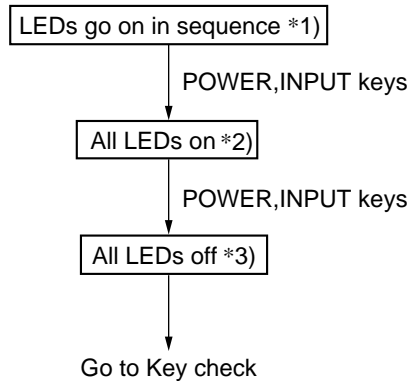
Press the POWER key and the EFFECT key at the same time and turn on the power. (Insert the DC plug)

3-3. RELEASING THE TEST MODE

Remove the DC plug.

3-4. TEST MODE

1. LED check

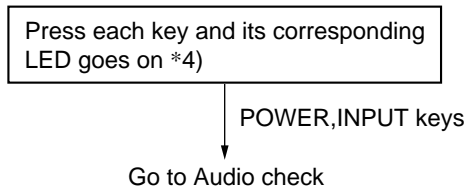


*1) In test mode

*2) All infrared LEDs on

*3) All infrared LEDs on

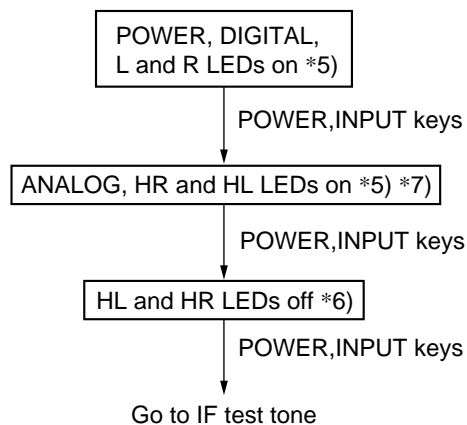
2. Key check



*4) Corresponding LEDs

POWER key : POWER LED
 INPUT key : ANALOG LED
 EFFECT key : MUSIC LED
 OUTPUT key : VIRTUAL LED

3. Audio check

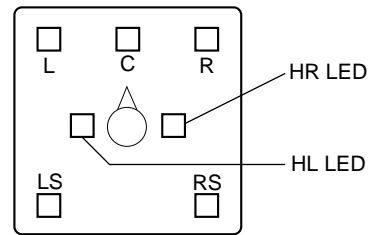


*5) Digital input check : Do not use this in repair.

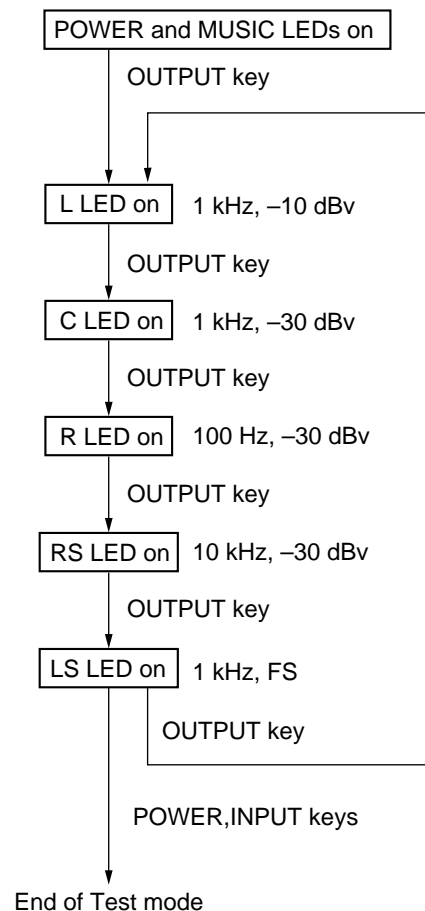
*6) Analog input check : Other than MUTE check, do not use this in repair.

*7) Mute mode : Use this in electrical adjustment (see page 8).

*8)



4. IF test tone



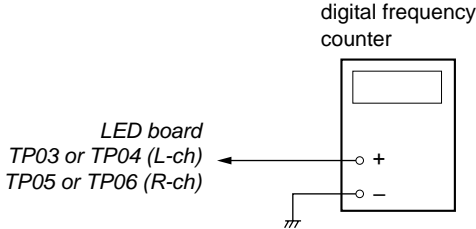
SECTION 4 ELECTRICAL ADJUSTMENTS

Notes:

1. These adjustments are performed in the order that they are described.
2. Adjustment and measurement are performed for each channel unless otherwise specified.
3. Adjustment is made for the right channel first and then the left channel.
4. The power voltage is supplied with 9 V.

Oscillation Frequency Adjustment

Setting:



Adjustment method:

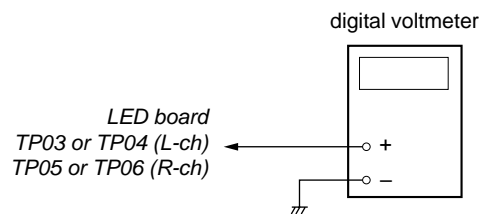
- Perform this adjustment without signal.
1. Connect TP (A MUTE) to ground on the TX board (to set the mute state), or use the test mode to set the mute state (see page 7).
 2. Connect a digital frequency counter to TP03 or TP04 for L-ch and TP05 or TP06 for R-ch on the LED board.
 3. Adjust L51 (L-ch) and L1 (R-ch) on the TX board so that the reading on the digital frequency counter is each within 2.3 MHz (L-ch) and 2.8 MHz (R-ch).

Specified value:

L-ch	L51	2.298 to 2.302 MHz
R-ch	L1	2.798 to 2.802 MHz

RF Level Adjustment

Setting:



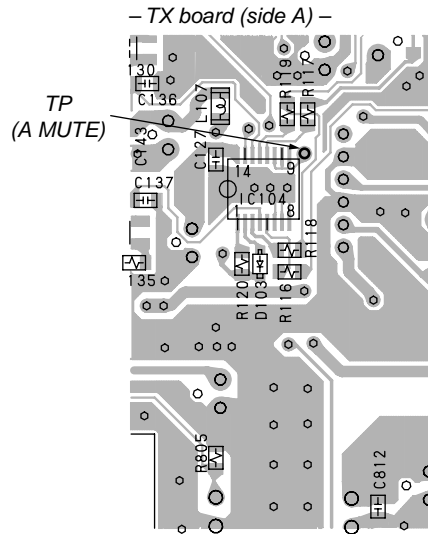
Adjustment method:

- Perform this adjustment without signal.
1. Connect TP L (L-ch) and TP R (R-ch) to ground on the LED board (to set the mute state), or use the test mode to set the mute state (see page 7).
 2. Connect a digital voltmeter to TP03 or TP04 for L-ch and TP05 or TP06 for R-ch on the LED board.
 3. Adjust RV51 (L-ch) and RV1 (R-ch) on the TX board so that the reading on the digital voltmeter is 480 mV.

Specified value:

L-ch	RV51	477.5 to 482.5 mV
R-ch	RV1	477.5 to 482.5 mV

Adjustment Location:



SECTION 5 DIAGRAMS

5-1. IC PIN DESCRIPTIONS

5-1-1. IC201 μ PD784216 (PROGRAM, SYSTEM CONTROL)

Pin No.	Pin Name	I/O	Pin Description
1	RTP0/P120	O	Analog circuit block mute signal output (H: Mute)
2	RTP1/P121	O	D/A mute signal output (H: Mute)
3	RTP2/P122	O	IF circuit block power control signal output (H: ON)
4	RTP3/P123	O	Main circuit block power control signal output (H: ON)
5	RTP4/P124	O	DIR block clock select signal output (H: Digital, L: Analog)
6	RTP5/P125	O	DIR serial select signal output
7	RTP6/P126	—	Not used. (Open)
8	RTP7/P127	—	Not used. (Open)
9	VDD	I	Power supply pin
10	X2	O	Connect to crystal for main system clock oscillator
11	X1	I	Connect to crystal for main system clock oscillator
12	VSS	—	Ground
13	XT2	—	Not used. (Open)
14	XT1	—	Not used. (Fix to “L”.)
15	RESET	I	Reset signal input
16	INTP0/P00	I	DIR audio data detect signal input
17	INTP1/P01	—	Not used. (Open)
18	INTP2/P02	O	Sub DSP serial select signal output
19	INTP3/P03	O	Decoder serial select signal output
20	INTP4/P04	O	Main DSP serial select signal output
21	INTP5/P05	O	SLAVE reset signal output
22	INTP6/P06	I	DIR lock signal input
23	AVDD	I	Power supply pin
24	AVREF0	—	Ground
25	ANI0/P10	I	DSP serial BUSY 5 V signal input
26	ANI1/P11	—	Not used. (Open)
27	ANI2/P12	I	Not used. (Open)
28	ANI3/P13	I	Not used. (Open)
29	ANI4/P14	I	Not used. (Open)
30	ANI5/P15	I	Auto mute detect signal (L: OFF, H: ON)
31	ANI6/P16	—	Not used. (Open)
32	ANI7/P17	I	Audio input level signal input
33	AVSS	—	Analog ground
34	ANO0/P130	—	Not used. (Open)
35	ANO1/P131	—	Not used. (Open)
36	AVREF1	I	Power supply pin
37	SI2	I	Main serial data signal input
38	SO2	O	Main serial data signal output
39	SCK2	O	Main serial clock signal output
40	SI1	I	Main serial data signal input
41	SO2	O	Not used. (Open)
42	SCK1	O	Main serial clock signal output
43	PCL/P23	O	Main DSP reset signal output
44	BUZ/P24	—	Not used.
45	SI0	I	LED/FLASH serial data signal input
46	SO0	O	LED/FLASH serial data signal output
47	SCK0	O	LED/FLASH serial clock signal output
48	A0/P80	O	Main DSP mute signal output
49	A1/P81	O	Not used. (Main DSP ATT setting bit HIGH)
50	A2/P82	O	Not used. (Main DSP ATT setting bit LOW)
51	A3/P83	O	Main DSP ALC ON signal output

Pin No.	Pin Name	I/O	Pin Description
52	A4/P84	O	Main DSP VR setting bit HIGH signal output
53	A5/P85	O	Main DSP VR setting bit LOW signal output
54	A6/P86	O	Reserve terminal (Fix to “L”.)
55	A7/P87	O	Reserve terminal (Fix to “L”.)
56 – 63	AD0 – 7/P40 – 47	—	Not used. (Open)
64	A8/P50	O	Not used. (Open) (LED 0)
65	A9/P51	O	Not used. (Open) (LED 1)
66	A10/P52	O	Not used. (Open) (LED 2)
67	A11/P53	O	Not used. (Open) (LED 3)
68 – 71	A12 – 15/P54 – 57	—	Not used. (Open)
72	VSS	—	Ground
73	A16/P60	I	Power on/off key input
74	A17/P61	I	INPUT key input
75	A18/P62	I	EFFECT key input
76	A19/P63	I	OUTPUT key input
77	$\overline{\text{RD}}/\text{P64}$	I	Jump key input
78	$\overline{\text{WR}}/\text{P65}$	I	Not used. (Open)
79	$\overline{\text{WAIT}}/\text{P66}$	I	Not used. (Open)
80	ASTB/P67	I	Not used. (Open)
81	VDD	I	Power supply pin
82	T05/P100	O	LEDEN signal output
83	T06/P101	O	LEDLAT signal output
84	T07/P102	O	LEDRESET signal output
85	T08/P103	—	Not used. (Open)
86	T00/P30	—	Not used. (Open)
87	T01/P31	—	Not used. (Open)
88	T02/P32	—	Not used. (Open)
89	T03/P33	—	Not used. (Open)
90	T04/P34	—	Not used. (Open)
91	TI00/P35	—	Not used. (Open)
92	TI01/P36	—	Not used. (Open)
93	P37	—	Not used. (Open)
94	VPP	I	VPP signal input
95 – 100	P90 – 95	—	Not used. (Open)

5-1-2. IC301 CXD9511AQ (DOLBY DIGITAL (AC-3)/PRO LOGIC, DTS DECODER)

Pin No.	Pin Name	I/O	Pin Description
1	VDD1	I	Power supply pin (+5 V)
2	RAMCEN	—	Not used. (Open)
3 • 4	RAM16 • 15	—	Not used. (Open)
5	SDIB0	I	PCM signal input
6 • 7	SDIB1 • 2	—	Not used. (Open)
8	XI	I	External system clock signal input (12.288 MHz)
9	XO	—	Not used. (Open)
10	VSS	—	Ground
11	AVDD	I	Power supply pin (+3.3 V)
12	SDIB3	—	Not used. (Open)
13 • 14	TEST	—	Test pin
15	OVFB	—	Not used. (Open)
16	DTSDATA	—	Not used. (Open)
17	AC3DATA	—	Not used. (Open)
18	SPDOB3	—	Not used. (Open)
19	CPO	O	PLL signal output
20	AVSS	—	Ground
21	ADD2	I	Power supply pin
22	SDOA2	O	PCM signal output (C, LFE output)
23	SDOA1	O	PCM signal output (LS, RS output)
24	SDOA0	O	PCM signal output (L, R output)
25 – 29	RAMA14 – 10	—	Not used. (Open)
30	VSS	—	Ground
31	VDD1	I	Power supply pin (+5 V)
32 – 39	OPORT0 – 7	—	Not used. (Open)
40	VSS	—	Ground
41	VDD2	I	Power supply pin (+3.3 V)
42 – 44	RAMA9 – 7	—	Not used. (Open)
45	SDOB2	—	Not used. (Open)
46	SDOB1	O	PCM signal output
47	SDOB0	O	PCM signal output
48	SDBCK1	—	Not used. (Open)
49	SDWCK1	—	Not used. (Open)
50	VSS	—	Ground
51	VDD2	I	Power supply pin (+3.3 V)
52	NONPCM	—	Not used. (Open)
53	CRC	—	Not used. (Open)
54	MUTE	O	Auto mute detect signal output
55	KARAOKE	—	Not used. (Open)
56	SCRENC	—	Not used. (Open)
57	SDBCK0	O	SDBCK0 turn over clock signal output
58 • 59	RAMA6 • 5	—	Not used. (Open)
60	VSS	—	Ground
61	RAMA4	—	Not used. (Open)
62	IC	I	Initial clear terminal
63	TEST	—	Test pin
64	RAMA3	—	Not used. (Open)
65	CSB	I	Sub DSP chip select signal input
66	C \overline{S}	I	Interface chip select signal input
67	SO	O	Interface data signal output
68	SI	I	Interface and sub DSP data signal input
69	SCK	I	Interface and sub DSP clock signal input

Pin No.	Pin Name	I/O	Pin Description
70	RAMA2	—	Not used. (Open)
71	VDD1	I	Power supply pin (+5 V)
72 – 79	RAMD0 – 7	—	Not used. (Open)
80	VSS	—	Ground
81	VDD2	I	Power supply pin (+3.3 V)
82	SDWCK0	I	SDIA, SDOA, SDIB and SDOB signal word clock signal input
83	SDBCK0	I	SDIA, SDOA, SDIB and SDOB signal bit clock signal input
84	SDIA0	I	AC-3/DTS bitstream (or PCM) data signal input
85	SDIA1	I	AC-3/DTS bitstream (or PCM) data signal input
86 • 87	RAMA1 • 0	—	Not used. (Open)
88	RAMWEN	—	Not used. (Open)
89	RAMOEN	—	Not used. (Open)
90	VSS	—	Ground
91	VDD2	I	Power supply pin (+3.3 V)
92 • 93	IPORT7 • 6	I	Input port resistor pin
94 – 99	IPORT5 – 0	—	Not used. (Open)
100	VSS	—	Ground

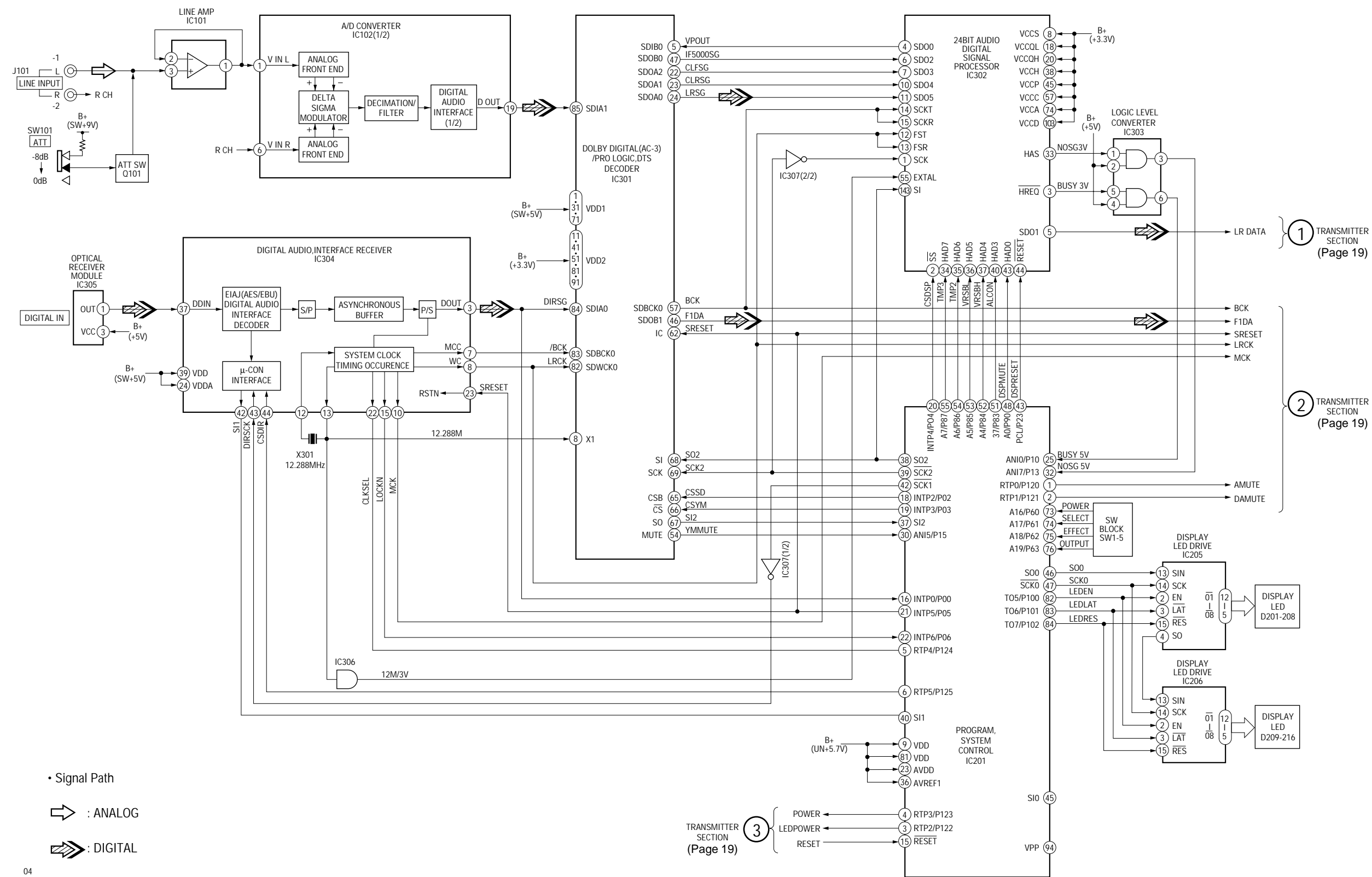
5-1-3. IC302 XCB56362PV100 (24 BIT AUDIO DIGITAL SIGNAL PROCESSOR)

Pin No.	Pin Name	I/O	Pin Description
1	SCK	I	SPI serial clock signal input
2	\overline{SS}	I	SPI SLAVE select signal input
3	\overline{HREQ}	O	Host request signal output
4	SDO0	O	Serial data signal output
5	SDO1	O	Serial data signal output
6	SDO2	O	Serial data signal output
7	SDO3	O	Serial data signal output
8	VCCS	I	Power supply pin
9	GNDS	—	Ground
10	SDO4	O	Serial data signal output
11	SDO5	O	Serial data signal output
12	FST	I	Transmitter frame sync signal input
13	FSR	I	Receiver frame sync signal input
14	SCKT	I	Transmitter serial clock signal input
15	SCKR	I	Receiver serial clock signal input
16	HCKT	—	Not used. (Open)
17	HCKR	—	Not used. (Open)
18	VCCQL	I	Power supply pin
19	GNDQ	—	Ground
20	VCCQL	I	Power supply pin
21	\overline{HDS}	—	Not used. (Open)
22	HRW	—	Not used. (Open)
23	\overline{HACK}	—	Not used. (Open)
24	\overline{HOREQ}	—	Not used. (Open)
25	VCCS	I	Power supply pin
26	GNDS	—	Not used. (Open)
27	ADO	—	Not used. (Open)
28	ACI	—	Not used. (Open)
29	TIO0	I	Timer schmitt trigger signal input
30	\overline{HCS}	—	Not used. (Open)
31	HA9	—	Not used. (Open)
32	HA8	—	Not used. (Open)
33	HAS	O	Host address strobe signal output
34	HAD7	—	Not used.
35	HAD6	—	Not used.
36	HAD5	I	Host address signal input
37	HAD4	I	Host address signal input
38	VCCH	I	Power supply pin
39	GNDH	—	Ground
40	HAD3	I	Host address signal input
41	HAD2	I	Host address signal input
42	HAD1	I	Host address signal input
43	HAD0	I	Host address signal input
44	\overline{RESET}	I	Reset signal input
45	VCCP	I	Power supply pin
46	PCAP	I	PLL capacitor connecting pin
47	GNDP	—	Ground
48	GNDP1	—	Ground
49	VCCQH	I	Power supply pin
50 • 51	AA3 • 2	—	Not used. (Open)
52	\overline{CAS}	—	Not used. (Open)
53	\overline{DE}	—	Not used. (Open)

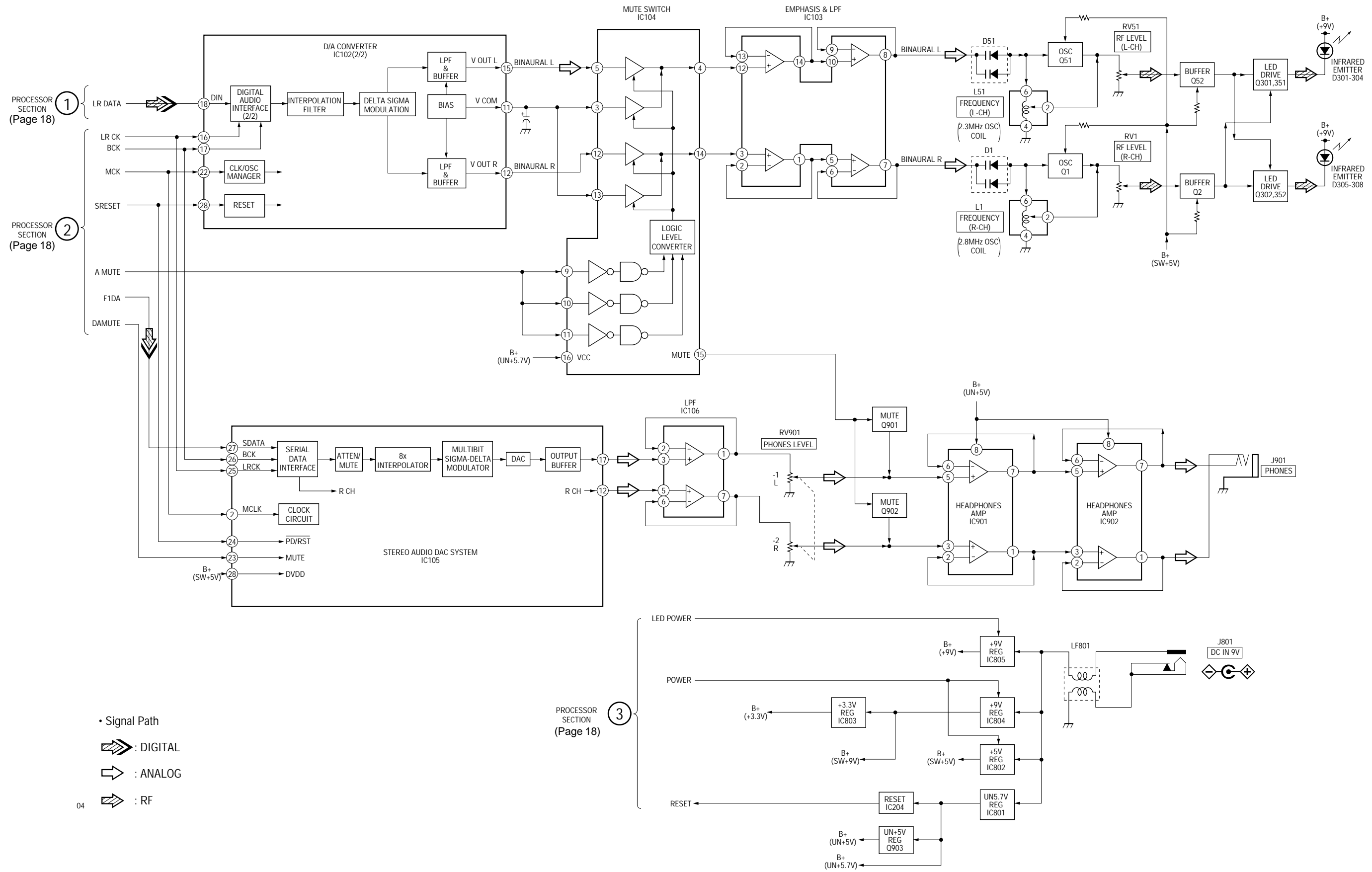
Pin No.	Pin Name	I/O	Pin Description
54	GNDQ	—	Ground
55	EXTAL	I	External clock signal input (12.288 MHz)
56	VCCQL	I	Power supply pin
57	VCCC	I	Power supply pin
58	GNDC	—	Ground
59	CLKOUT	—	Not used. (Open)
60	NC	—	Not used. (Open)
61	PINIT	—	Ground
62	$\overline{\text{TA}}$	—	Ground
63	$\overline{\text{BR}}$	—	Not used. (Open)
64	$\overline{\text{BB}}$	I	Bus BUSY signal input
65	VCCC	I	Power supply pin
66	GNDC	—	Ground
67	$\overline{\text{WR}}$	—	Not used. (Open)
68	$\overline{\text{RD}}$	—	Not used. (Open)
69 • 70	AA1 • 0	—	Not used. (Open)
71	$\overline{\text{BG}}$	—	Ground
72 • 73	A0 • 1	—	Not used. (Open)
74	VCCA	I	Power supply pin
75	GNDA	—	Ground
76 – 79	A2 – 5	—	Not used. (Open)
80	VCCA	I	Power supply pin
81	GNDA	—	Ground
82 – 85	A6 – 9	—	Not used. (Open)
86	VCCA	I	Power supply pin
87	GNDA	—	Ground
88 • 89	A10 • 11	—	Not used. (Open)
90	GNDQ	—	Ground
91	VCCQL	I	Power supply pin
92 – 94	A12 – 14	—	Not used. (Open)
95	VCCQH	I	Power supply pin
96	GNDA	—	Ground
97 – 99	A15 – 17	—	Not used. (Open)
100 – 102	D0 – 2	—	Not used. (Open)
103	VCCD	I	Power supply pin
104	GNDD	—	Ground
105 – 110	D3 – 8	—	Not used. (Open)
111	VCCB	I	Power supply pin
112	GNDD	—	Ground
113 – 118	D9 – 14	—	Not used. (Open)
119	VCCD	I	Power supply pin
120	GNDD	—	Ground
121 – 125	D15 – 19	—	Not used. (Open)
126	VCCQL	I	Power supply pin
127	GNDQ	—	Ground
128	D20	—	Not used. (Open)
129	VCCD	I	Power supply pin
130	GNDD	—	Ground
131 – 133	D21 – 23	—	Not used. (Open)
134	MODD	—	Not used. (Fix to “L”).)
135	MODC	I	Mode select/external discontinue request signal input
136	MODB	I	Mode select/external discontinue request signal input
137	MODA	I	Mode select/external discontinue request signal input

Pin No.	Pin Name	I/O	Pin Description
138	$\overline{\text{TRST}}$	—	Not used. (Open)
139	TDO	—	Not used. (Open)
140	TDI	—	Not used. (Open)
141	TCK	I	Test clock input
142	TMS	—	Not used. (Open)
143	SI	I	SPI master data signal input
144	SO	—	Not used. (Open)

5-2. BLOCK DIAGRAMS
5-2-1. BLOCK DIAGRAM — PROCESSOR SECTION —



5-2-2. BLOCK DIAGRAM — TRANSMITTER SECTION —



5-3. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS
5-3-1. PRINTED WIRING BOARD — TX BOARD —

• Semiconductor Location

Ref. No.	Location
D1	G-4
D51	F-4
D101	H-10
D102	H-10
D103	G-5
D104	I-10
D201	E-5
D202	B-3
IC101	G-10
IC102	E-6
IC103	F-4
IC104	G-5
IC105	E-7
IC106	G-8
IC201	C-3
IC204	E-3
IC301	D-8
IC302	C-6
IC303	D-4
IC304	E-9
IC306	E-8
IC307	C-4
Q1	G-3
Q2	H-3
Q51	F-3
Q52	F-2
Q101	G-9
Q102	G-10

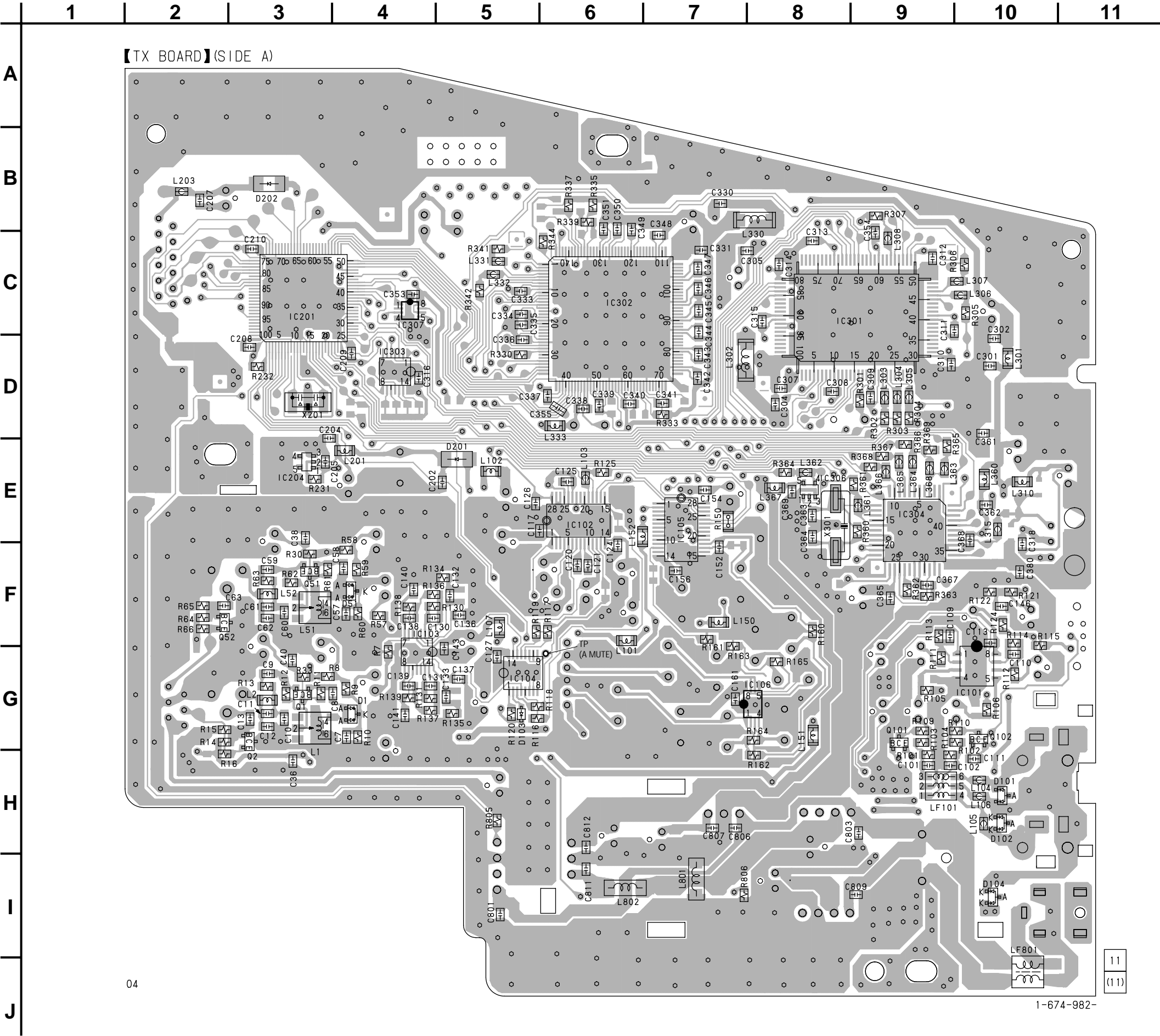
Note:

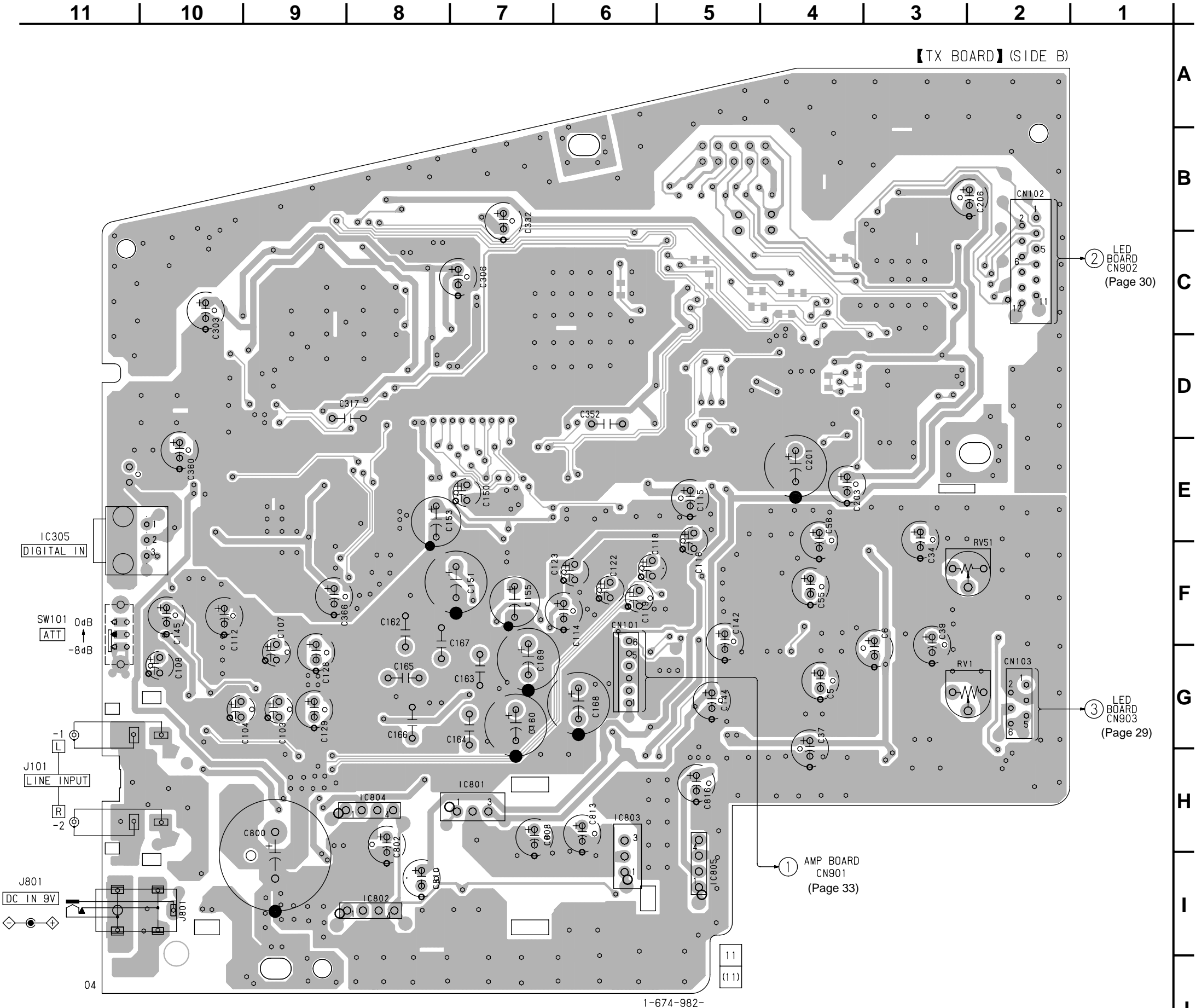
- : parts extracted from the component side.
- : Through hole.
- ▨ : Pattern from the side which enables seeing.
(The other layer's patterns are not indicated.)

Caution:

Pattern face side: Parts on the pattern face side seen from the
(Side B) pattern face are indicated.

Parts face side: Parts on the parts face side seen from the
(Side A) parts face are indicated.

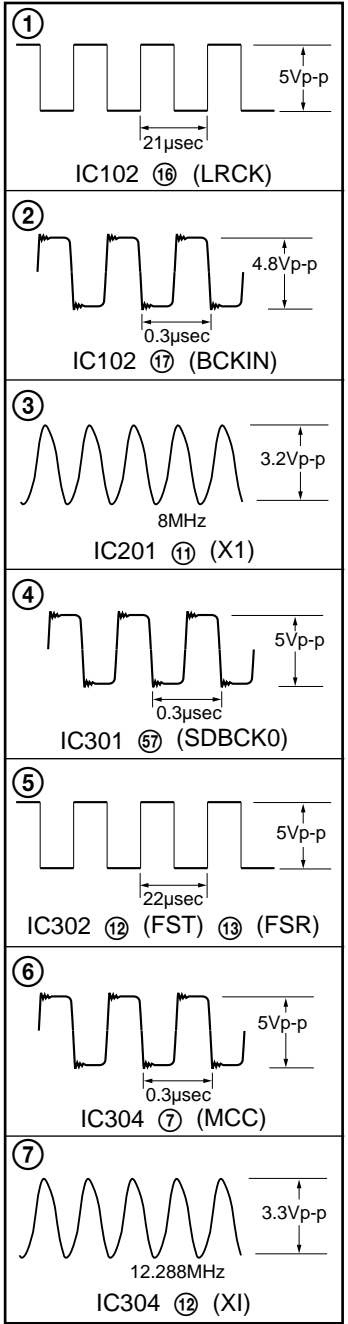




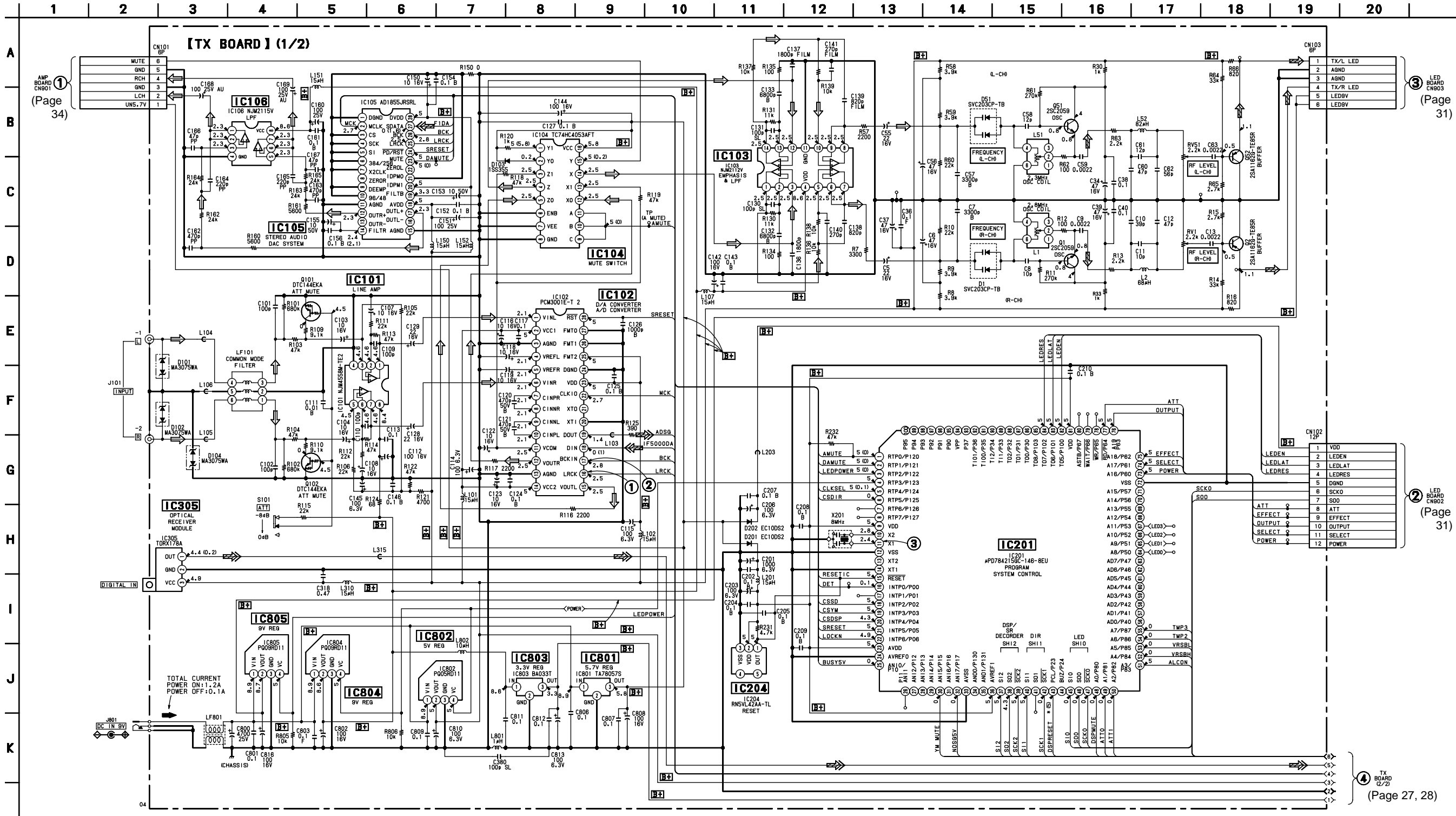
• Semiconductor Location

Ref. No.	Location
IC305	E-11
IC801	H-8
IC802	I-9
IC803	H-6
IC804	H-9
IC805	I-5

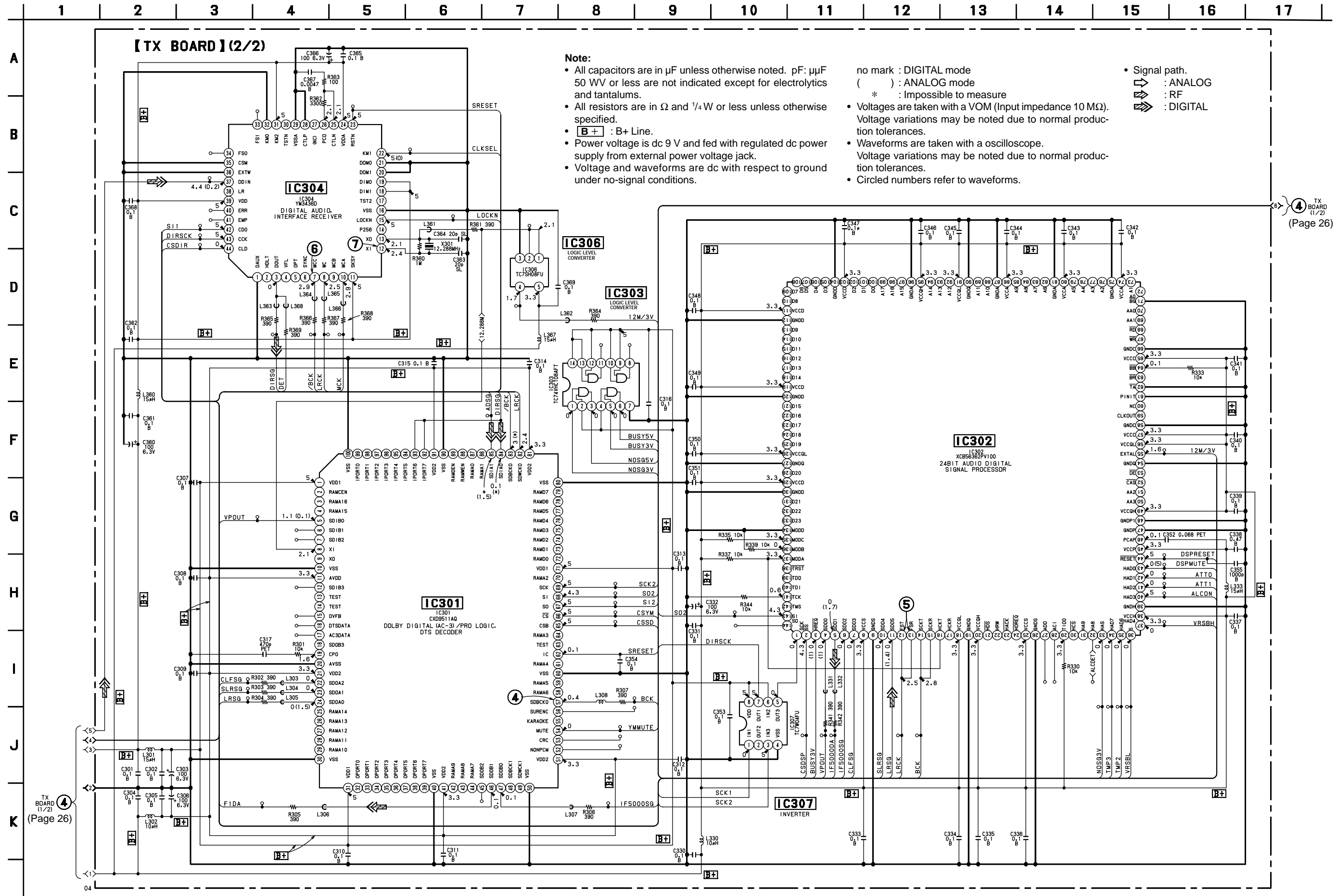
• Waveforms



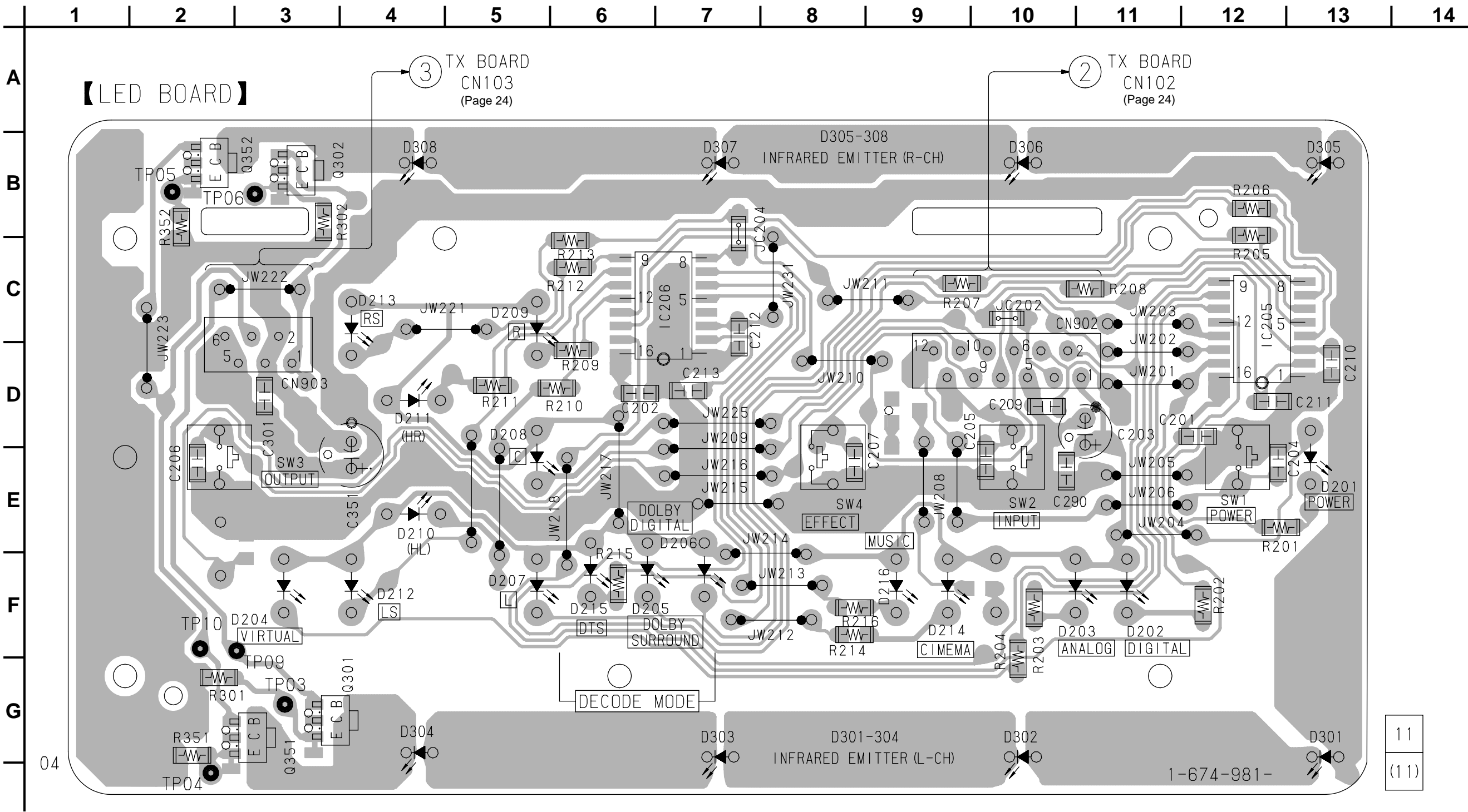
5-3-2. SCHEMATIC DIAGRAM — TX BOARD (1/2) — • Refer to page 35 for IC Block Diagrams. • Refer to page 24 for Waveforms.



5-3-3. SCHEMATIC DIAGRAM — TX BOARD (2/2) — • Refer to page 36 for IC Block Diagrams. • Refer to page 24 for Waveforms.



5-3-4. PRINTED WIRING BOARD — LED BOARD —

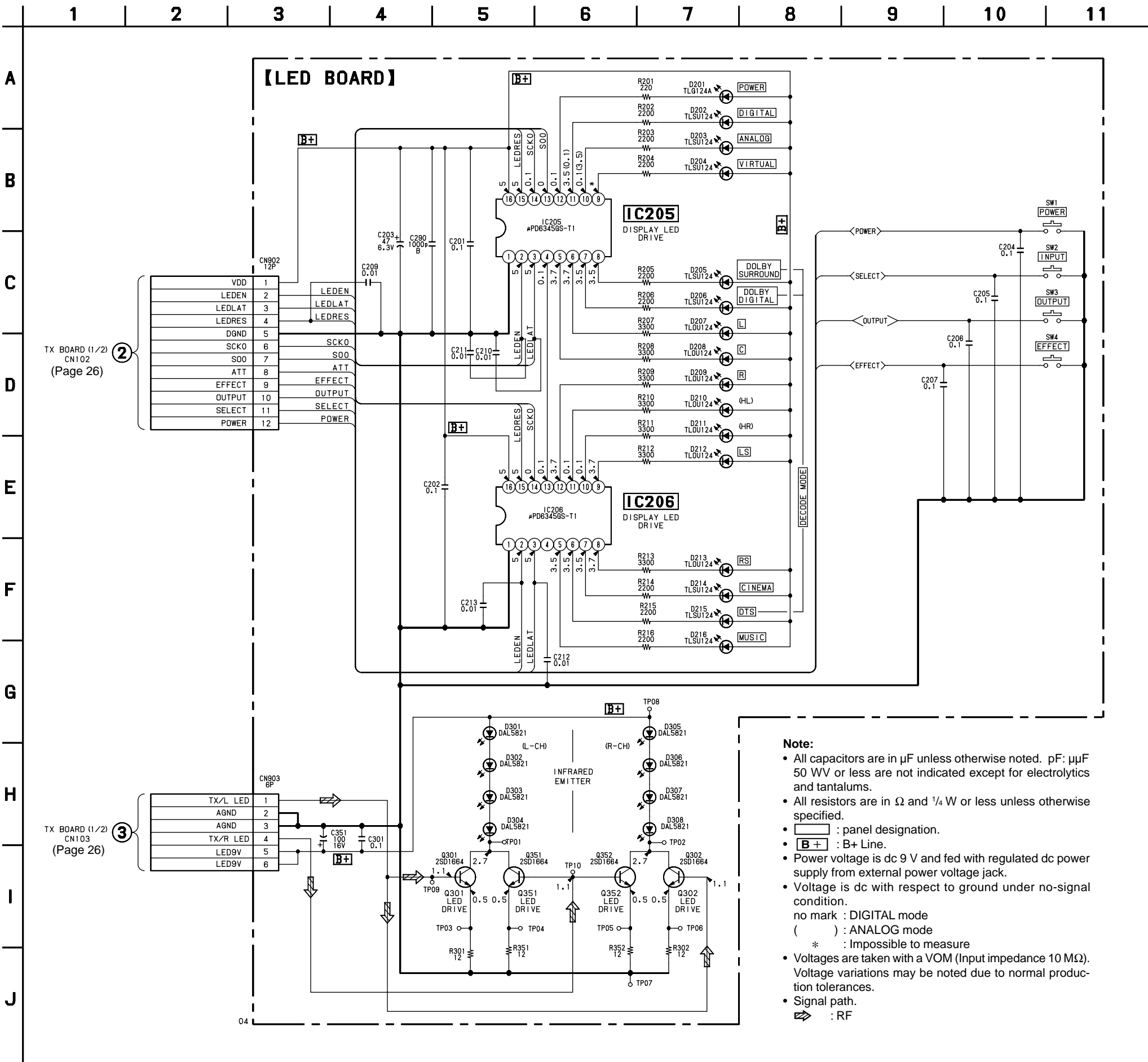


Note:
• ○ : parts extracted from the component side.
• : Pattern from the side which enables seeing.

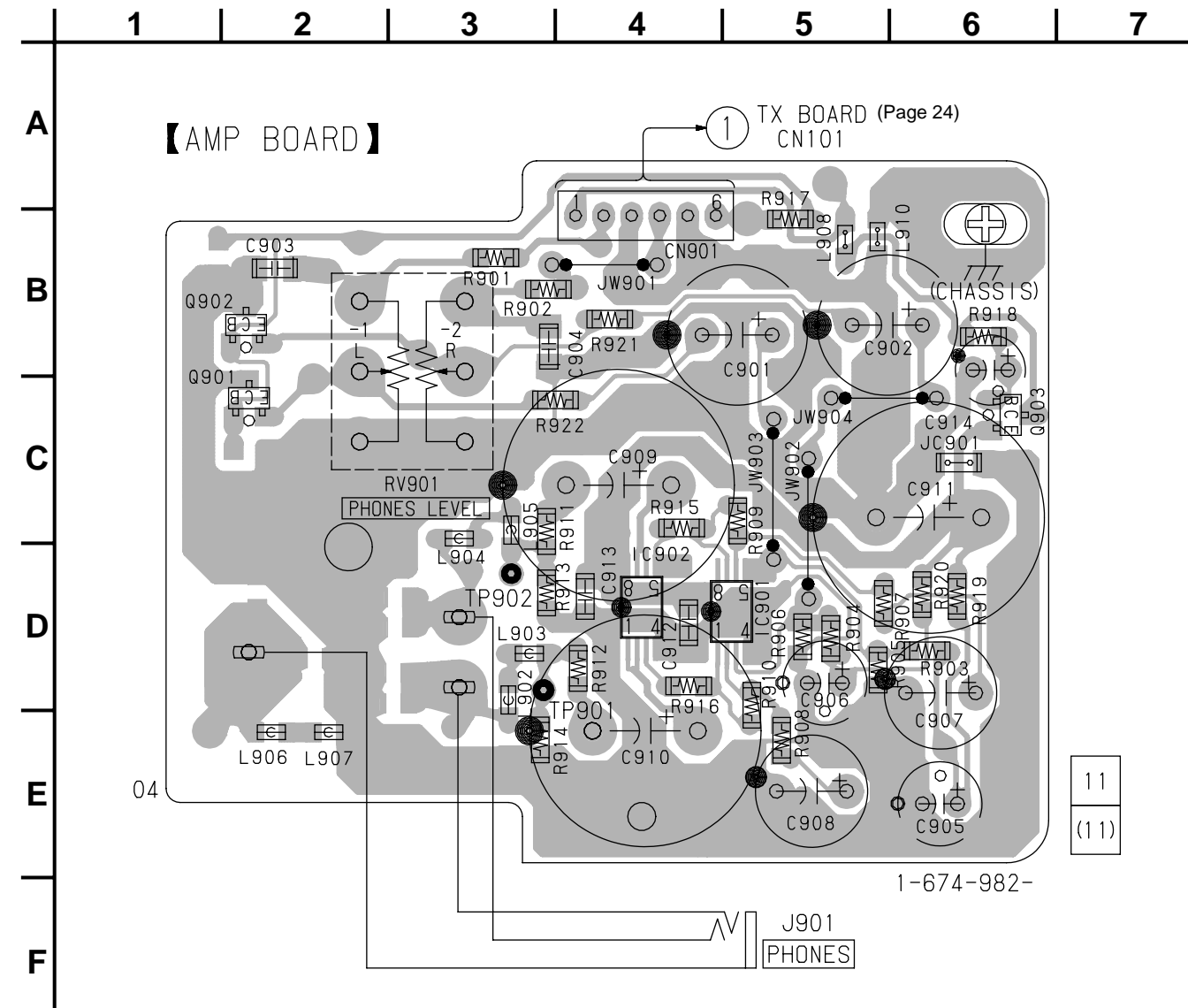
5-3-5. SCHEMATIC DIAGRAM — LED BOARD — • Refer to page 36 for IC Block Diagrams.

• Semiconductor Location

Ref. No.	Location
D201	E-13
D202	F-11
D203	F-10
D204	F-3
D205	F-6
D206	E-7
D207	F-5
D208	D-5
D209	C-5
D210	E-4
D211	D-4
D212	F-4
D213	C-4
D214	F-9
D215	F-6
D216	F-9
D301	G-13
D302	G-10
D303	G-7
D304	G-4
D305	B-13
D306	B-10
D307	B-7
D308	B-4
IC205	C-12
IC206	D-7
Q301	G-4
Q302	B-3
Q351	G-3
Q352	B-3



5-3-6. PRINTED WIRING BOARD — AMP BOARD —



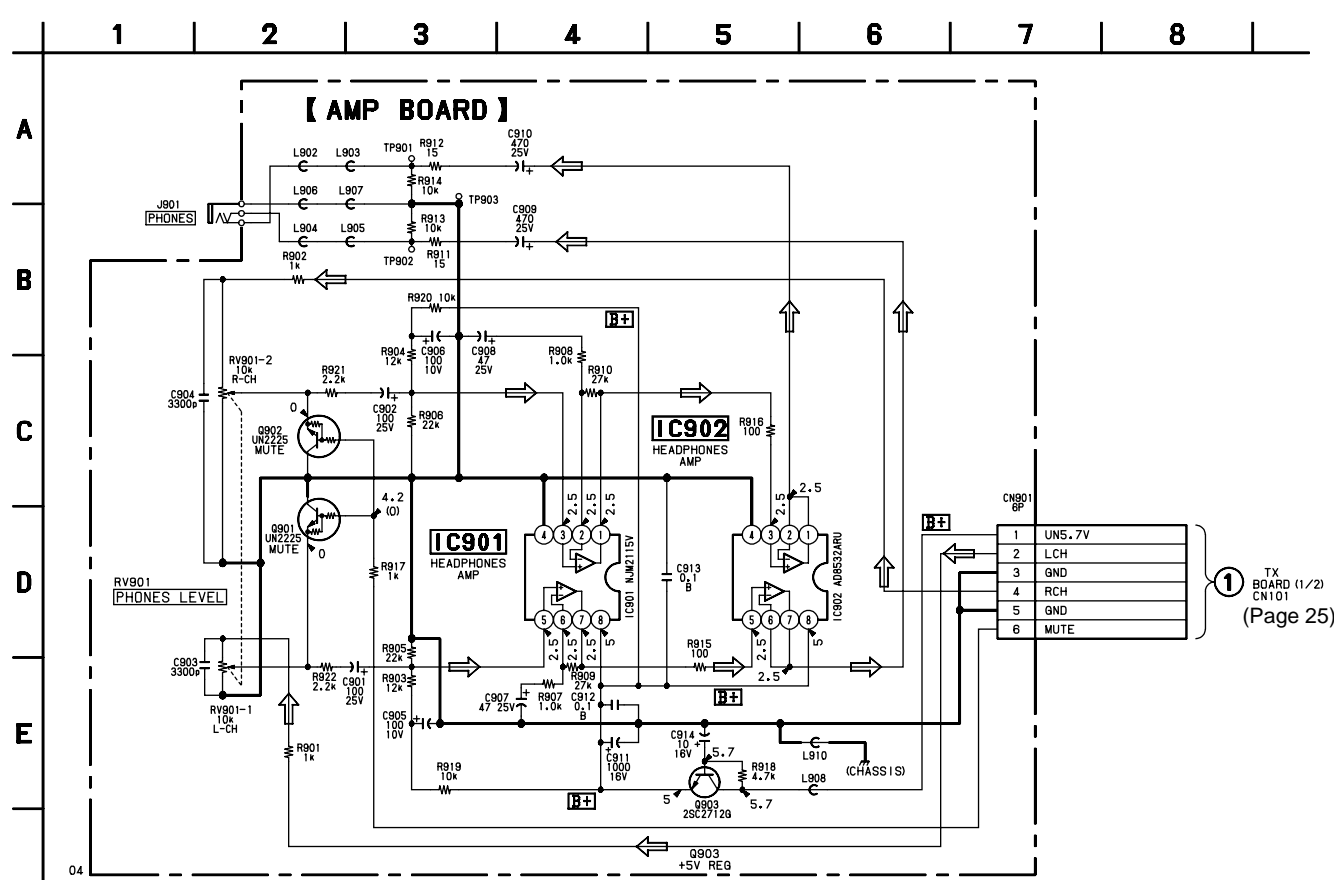
• Semiconductor Location

Ref. No.	Location
IC901	D-5
IC902	D-4
Q901	C-2
Q902	B-2
Q903	C-6

Note:

- : parts extracted from the component side.
- ▨ : Pattern from the side which enables seeing.

5-3-7. SCHEMATIC DIAGRAM — AMP BOARD —

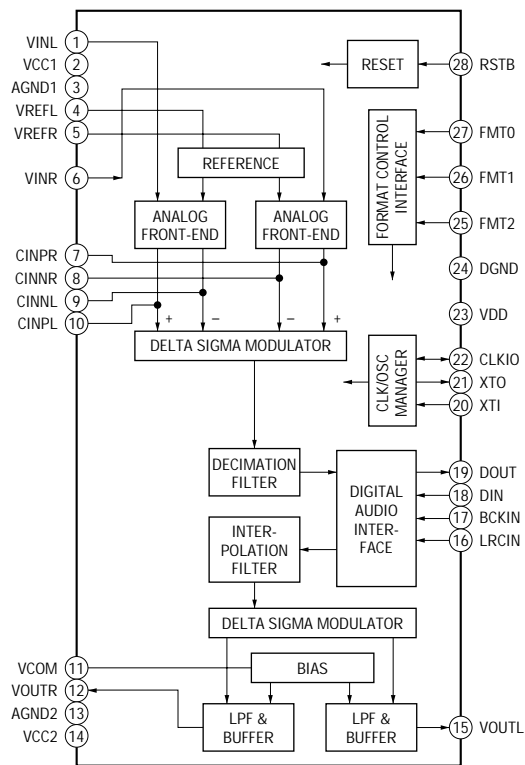


Note:

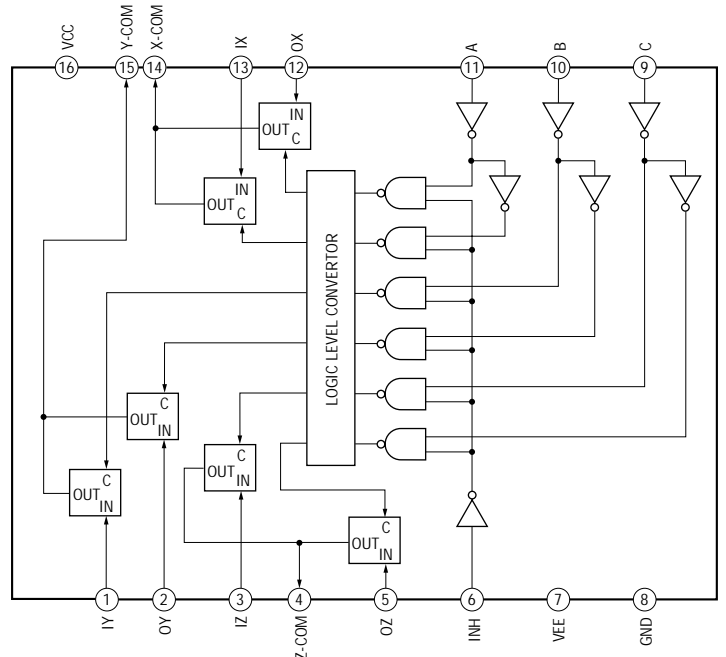
- All capacitors are in μF unless otherwise noted. pF : μpF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- : panel designation.
- B+ : B+ Line.
- Power voltage is dc 9 V and fed with regulated dc power supply from external power voltage jack.
- Voltage is dc with respect to ground under no-signal condition.
no mark : DIGITAL/ANALOG mode
- Voltages are taken with a VOM (Input impedance 10 M Ω).
Voltage variations may be noted due to normal production tolerances.
- Signal path.
⇒ : ANALOG

5-4. IC BLOCK DIAGRAMS

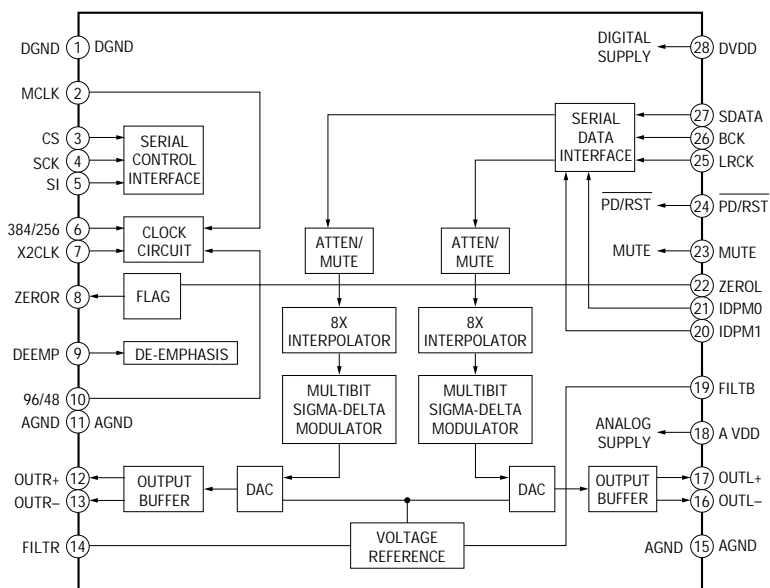
IC102 PCM3001E-T2



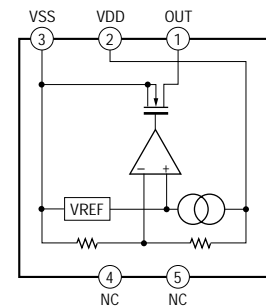
IC104 TC74HC4053AFT



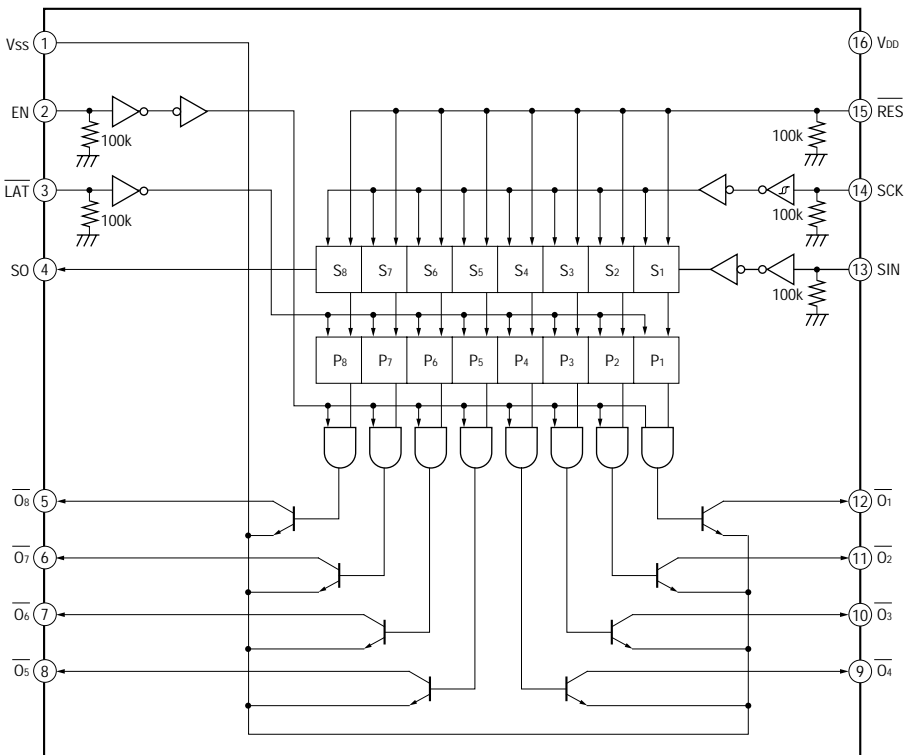
IC105 AD1855JRSRL



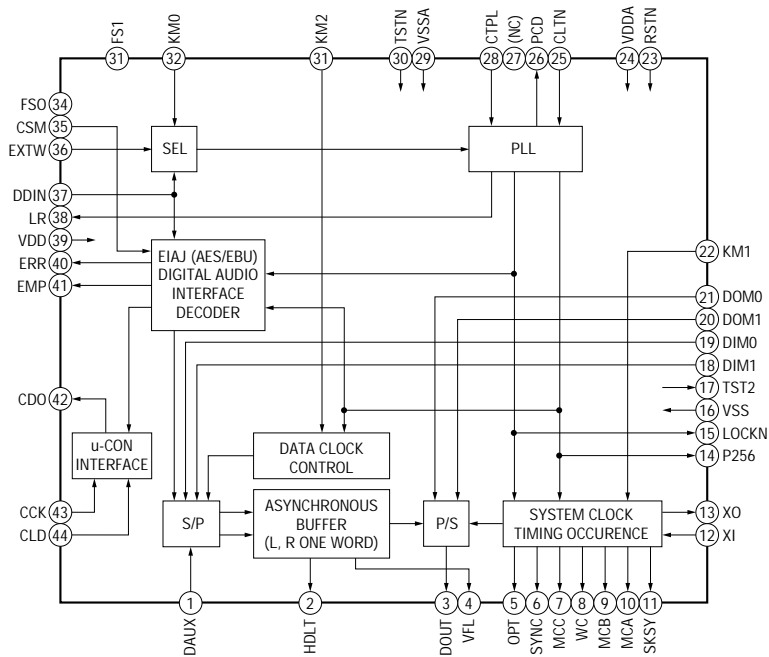
IC204 RN5VL42AA-TL



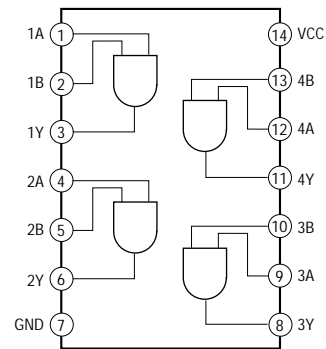
IC205, 206 μ PD6345GS



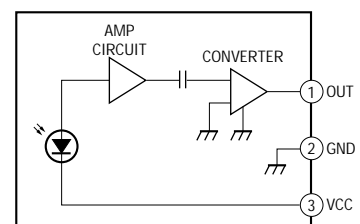
IC304 YM3436D



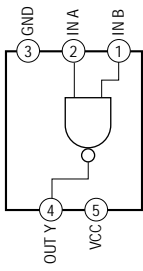
IC303 TC74VHCT08AFT (EL)



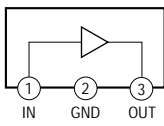
IC305 TORX178A



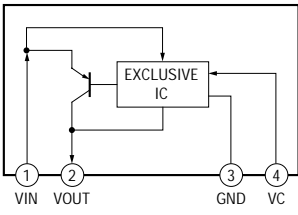
IC306 TC7SH08FU



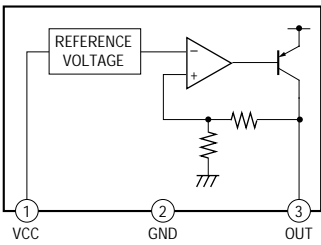
IC801 TA78057S



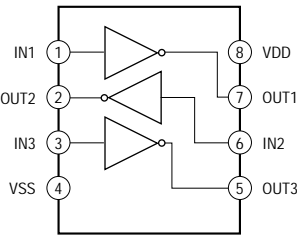
**IC802 PQ05RD11
IC804, 805 PQ09RD11**



IC803 BA033T



IC307 TC7W04FU



SECTION 6 EXPLODED VIEW

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

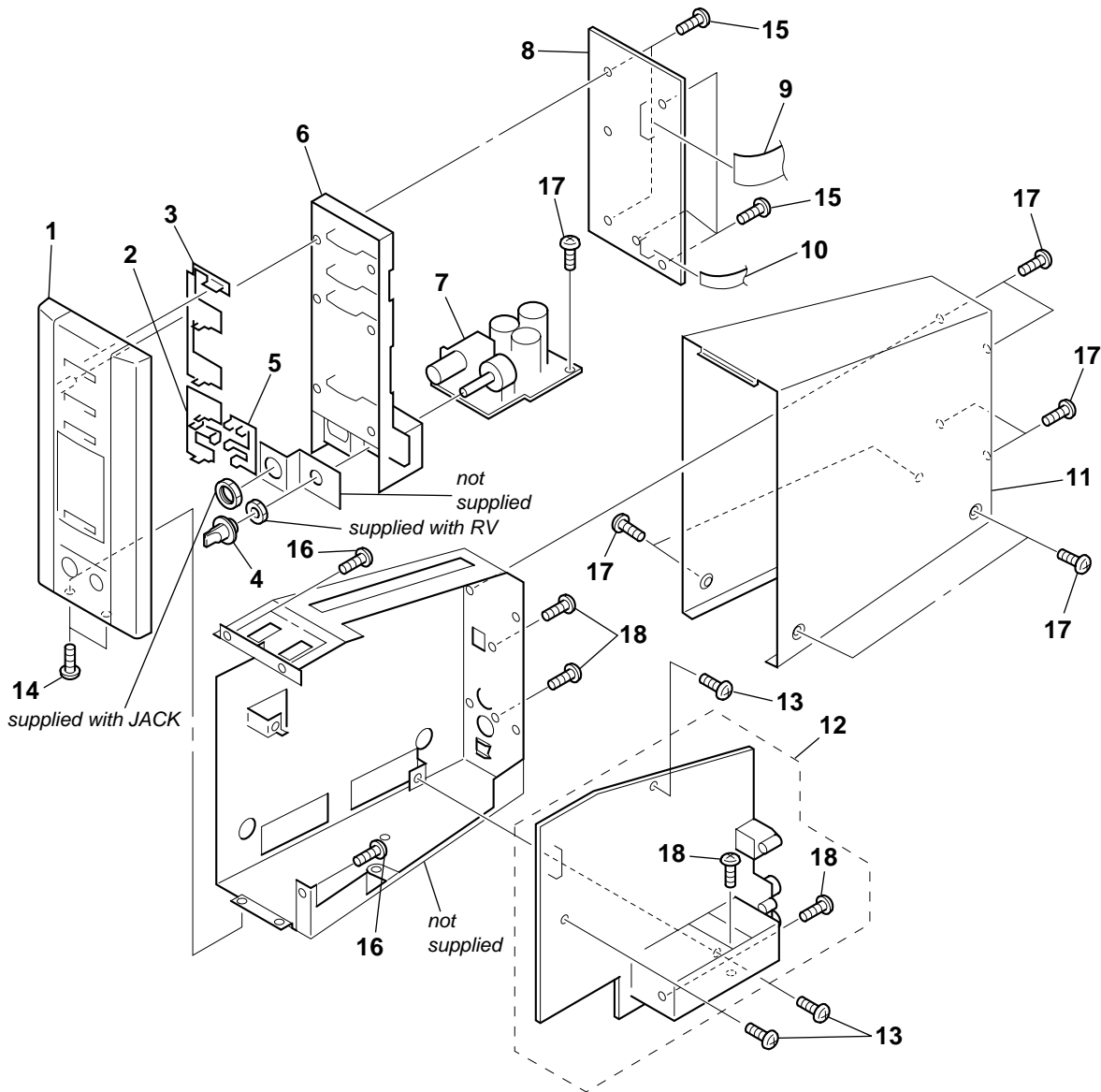
- -XX and -X mean standardized parts, so they may have some difference from the original one.

- Color Indication of Appearance Parts

Example :

KNOB, BALANCE (WHITE) ... (RED)

Parts Color
 Cabinet's Color



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	X-4952-190-1	PANEL ASSY, FRONT		10	1-790-199-11	WIRE, PARALLEL 6P	
* 2	4-223-990-01	PLATE (B), LIGHT GUIDE		11	X-4952-191-1	COVER ASSY	
* 3	4-223-989-01	PLATE (A), LIGHT GUIDE		* 12	A-4542-613-A	TX BOARD, COMPLETE	
4	4-213-828-01	KNOB (VOL)		13	3-922-535-11	SCREW (+BTT)	
* 5	4-223-991-01	PLATE (C), LIGHT GUIDE		14	4-224-922-01	SCREW (2.6X6) (S TITE)	
6	4-223-999-01	PANEL, SUB		15	7-685-105-19	SCREW +P 2X8 TYPE2 NON-SLIT	
* 7	A-4542-611-A	AMP BOARD, COMPLETE		16	7-685-645-79	SCREW +P 3X6 TYPE2 NON-SLIT	
* 8	A-4542-612-A	LED BOARD, COMPLETE		17	7-685-791-04	SCREW +PTT 2.6X5 (S)	
9	1-790-200-11	WIRE, PARALLEL 12P		18	7-685-647-79	SCREW +BVTP 3X8 TYPE2 IT-3	

SECTION 7 ELECTRICAL PARTS LIST

AMP

LED

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms.
METAL: Metal-film resistor.
METAL OXIDE: Metal oxide-film resistor.
F: nonflammable

- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u : μ , for example:
uA.. : μ A.. uPA.. : μ PA..
uPB.. : μ PB.. uPC.. : μ PC.. uPD.. : μ PD..
- CAPACITORS
uF : μ F
- COILS
uH : μ H

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-4542-611-A	AMP BOARD, COMPLETE *****				< RESISTOR >	
		< CAPACITOR >		R901	1-216-049-11	RES,CHIP 1K 5% 1/10W	
C901	1-115-197-11	ELECT 100uF 20% 25V		R902	1-216-049-11	RES,CHIP 1K 5% 1/10W	
C902	1-115-197-11	ELECT 100uF 20% 25V		R903	1-216-075-00	METAL CHIP 12K 5% 1/10W	
C903	1-104-545-11	FILM CHIP 0.0033uF 5% 16V		R904	1-216-075-00	METAL CHIP 12K 5% 1/10W	
C904	1-104-545-11	FILM CHIP 0.0033uF 5% 16V		R905	1-216-081-00	METAL CHIP 22K 5% 1/10W	
C905	1-124-584-00	ELECT 100uF 20% 10V		R906	1-216-081-00	METAL CHIP 22K 5% 1/10W	
C906	1-124-584-00	ELECT 100uF 20% 10V		R907	1-216-049-11	RES,CHIP 1K 5% 1/10W	
C907	1-127-694-11	ELECT 47uF 20% 25V		R908	1-216-049-11	RES,CHIP 1K 5% 1/10W	
C908	1-127-694-11	ELECT 47uF 20% 25V		R909	1-216-083-00	METAL CHIP 27K 5% 1/10W	
C909	1-115-198-11	ELECT 470uF 20% 25V		R910	1-216-083-00	METAL CHIP 27K 5% 1/10W	
C910	1-115-198-11	ELECT 470uF 20% 25V		R911	1-216-005-00	METAL CHIP 15 5% 1/10W	
C911	1-127-693-51	ELECT 1000uF 20% 16V		R912	1-216-005-00	METAL CHIP 15 5% 1/10W	
C912	1-115-339-11	CERAMIC CHIP 0.1uF 10% 50V		R913	1-216-073-00	METAL CHIP 10K 5% 1/10W	
C913	1-115-339-11	CERAMIC CHIP 0.1uF 10% 50V		R914	1-216-073-00	METAL CHIP 10K 5% 1/10W	
C914	1-124-233-11	ELECT 10uF 20% 16V		R915	1-216-025-11	RES,CHIP 100 5% 1/10W	
		< IC >		R916	1-216-025-11	RES,CHIP 100 5% 1/10W	
IC901	8-759-358-47	IC NJM2115V(Te2)		R917	1-216-049-11	RES,CHIP 1K 5% 1/10W	
IC902	8-759-648-12	IC AD8532ARU-REEL		R918	1-216-065-11	RES,CHIP 4.7K 5% 1/10W	
		< JACK >		R919	1-216-073-00	METAL CHIP 10K 5% 1/10W	
J901	1-766-850-11	JACK (LARGE TYPE) (PHONES)		R920	1-216-073-00	METAL CHIP 10K 5% 1/10W	
		< JUMPER RESISTOR >		R921	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
JC901	1-216-296-91	SHORT 0		R922	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
		< FERRITE BEAD >				< VARIABLE RESISTOR >	
L902	1-414-235-22	FERRITE BEAD INDUCTOR		RV901	1-237-671-11	RES, VAR, CARBON 10K/10K (PHONES LEVEL)	
L903	1-414-235-22	FERRITE BEAD INDUCTOR		*****		*****	
L904	1-414-235-22	FERRITE BEAD INDUCTOR		*	A-4542-612-A	LED BOARD, COMPLETE *****	
L905	1-414-235-22	FERRITE BEAD INDUCTOR				< CAPACITOR >	
L906	1-414-235-22	FERRITE BEAD INDUCTOR		C201	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
L907	1-414-235-22	FERRITE BEAD INDUCTOR		C202	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
L908	1-414-235-22	FERRITE BEAD INDUCTOR		C203	1-124-589-11	ELECT 47uF 20% 16V	
L910	1-414-235-22	FERRITE BEAD INDUCTOR		C204	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
		< TRANSISTOR >		C205	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
Q901	8-729-043-69	TRANSISTOR UN2225-(TX).SO		C206	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
Q902	8-729-043-69	TRANSISTOR UN2225-(TX).SO		C207	1-163-038-00	CERAMIC CHIP 0.1uF 25V	
Q903	8-729-230-49	TRANSISTOR 2SC2712-YG		C209	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
				C210	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
				C211	1-163-031-11	CERAMIC CHIP 0.01uF 50V	
				C212	1-163-031-11	CERAMIC CHIP 0.01uF 50V	

Ref. No.	Part No.	Description	Remark		
C213	1-163-031-11	CERAMIC CHIP 0.01uF	50V		
C290	1-163-009-11	CERAMIC CHIP 0.001uF	10%	50V	
C301	1-163-038-00	CERAMIC CHIP 0.1uF	25V		
C351	1-126-382-11	ELECT 100uF	20%	16V	
< CONNECTOR >					
CN902	1-691-071-31	HOUSING, CONNECTOR 12P			
CN903	1-691-065-31	HOUSING, CONNECTOR 6P			
< DIODE >					
D201	8-719-072-97	LED TLG124A(TPJ52) (POWER)			
D202	8-719-077-16	LED TLSU124(TPJ52) (DIGITAL)			
D203	8-719-077-16	LED TLSU124(TPJ52) (ANALOG)			
D204	8-719-077-16	LED TLSU124(TPJ52) (VIRTUAL)			
D205	8-719-077-16	LED TLSU124(TPJ52) (DOLBY SURROUND (DECODE MODE))			
D206	8-719-077-16	LED TLSU124(TPJ52) (DOLBY DIGITAL (DECODE MODE))			
D207	8-719-077-15	LED TLOU124(TPJ52-SONY) (L)			
D208	8-719-077-15	LED TLOU124(TPJ52-SONY) (C)			
D209	8-719-077-15	LED TLOU124(TPJ52-SONY) (R)			
D210	8-719-077-15	LED TLOU124(TPJ52-SONY) (HL)			
D211	8-719-077-15	LED TLOU124(TPJ52-SONY) (HR)			
D212	8-719-077-15	LED TLOU124(TPJ52-SONY) (LS)			
D213	8-719-077-15	LED TLOU124(TPJ52-SONY) (RS)			
D214	8-719-077-16	LED TLSU124(TPJ52) (CINEMA)			
D215	8-719-077-16	LED TLSU124(TPJ52) (DTS (DECODE MODE))			
D216	8-719-077-16	LED TLSU124(TPJ52) (MUSIC)			
D301	8-719-052-34	LED DAL5821(INFRARED EMITTER)			
D302	8-719-052-34	LED DAL5821(INFRARED EMITTER)			
D303	8-719-052-34	LED DAL5821(INFRARED EMITTER)			
D304	8-719-052-34	LED DAL5821(INFRARED EMITTER)			
D305	8-719-052-34	LED DAL5821(INFRARED EMITTER)			
D306	8-719-052-34	LED DAL5821(INFRARED EMITTER)			
D307	8-719-052-34	LED DAL5821(INFRARED EMITTER)			
D308	8-719-052-34	LED DAL5821(INFRARED EMITTER)			
< IC >					
IC205	8-759-560-82	IC uPD6345GS-T1			
IC206	8-759-560-82	IC uPD6345GS-T1			
< JUMPER RESISTOR>					
JC202	1-216-296-91	SHORT 0			
JC204	1-216-296-91	SHORT 0			
< TRANSISTOR >					
Q301	8-729-106-68	TRANSISTOR 2SD1615A-GP			
Q302	8-729-106-68	TRANSISTOR 2SD1615A-GP			
Q351	8-729-106-68	TRANSISTOR 2SD1615A-GP			
Q352	8-729-106-68	TRANSISTOR 2SD1615A-GP			
< RESISTOR >					
R201	1-216-033-00	METAL CHIP 220	5%	1/10W	

Ref. No.	Part No.	Description			Remark
R202	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R203	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R204	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R205	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R206	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R207	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R208	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R209	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R210	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R211	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R212	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R213	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R214	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R215	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R216	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R301	1-216-003-11	RES,CHIP	12	5%	1/10W
R302	1-216-003-11	RES,CHIP	12	5%	1/10W
R351	1-216-003-11	RES,CHIP	12	5%	1/10W
R352	1-216-003-11	RES,CHIP	12	5%	1/10W
< SWITCH >					
SW1	1-571-760-11	SWITCH, KEY BOARD (POWER)			
SW2	1-571-760-11	SWITCH, KEY BOARD (INPUT)			
SW3	1-571-760-11	SWITCH, KEY BOARD (OUTPUT)			
SW4	1-571-760-11	SWITCH, KEY BOARD (EFFECT)			

*	A-4542-613-A	TX BOARD, COMPLETE			

	7-685-647-79	SCREW +BVTP 3X8 TYPE2 IT-3			
< CAPACITOR >					
C5	1-124-234-00	ELECT	22uF	20%	16V
C6	1-124-589-11	ELECT	47uF	20%	16V
C7	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C8	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C9	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C10	1-163-107-00	CERAMIC CHIP	39PF	5%	50V
C11	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C12	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C13	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C34	1-124-589-11	ELECT	47uF	20%	16V
C36	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C37	1-124-589-11	ELECT	47uF	20%	16V
C38	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C39	1-124-589-11	ELECT	47uF	20%	16V
C40	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C55	1-124-234-00	ELECT	22uF	20%	16V
C56	1-124-589-11	ELECT	47uF	20%	16V
C57	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C58	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C59	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C60	1-163-109-00	CERAMIC CHIP	47PF	5%	50V

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
C61	1-163-229-11	CERAMIC CHIP	12PF	5%	50V	C161	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C62	1-163-111-00	CERAMIC CHIP	56PF	5%	50V	C162	1-136-478-11	FILM	470PF	5%	630V
C63	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V	C163	1-136-478-11	FILM	470PF	5%	630V
C101	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C164	1-136-437-11	FILM	220PF	5%	630V
C102	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C165	1-136-437-11	FILM	220PF	5%	630V
C103	1-124-233-11	ELECT	10uF	20%	16V	C166	1-136-270-11	FILM	47PF	5%	630V
C104	1-124-233-11	ELECT	10uF	20%	16V	C167	1-136-270-11	FILM	47PF	5%	630V
C107	1-124-233-11	ELECT	10uF	20%	16V	C168	1-115-197-11	ELECT	100uF	20%	25V
C108	1-124-233-11	ELECT	10uF	20%	16V	C169	1-115-197-11	ELECT	100uF	20%	25V
C109	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C201	1-126-916-11	ELECT	1000uF	20%	6.3V
C110	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C202	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C111	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V	C203	1-126-968-11	ELECT	100uF	20%	6.3V
C112	1-126-382-11	ELECT	100uF	20%	16V	C204	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C113	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V	C205	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C114	1-124-584-11	ELECT	100uF	20%	6.3V	C206	1-126-968-11	ELECT	100uF	20%	6.3V
C115	1-124-584-11	ELECT	100uF	20%	6.3V	C207	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C116	1-124-233-11	ELECT	10uF	20%	16V	C208	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C117	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V	C209	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C118	1-124-233-11	ELECT	10uF	20%	16V	C210	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C119	1-124-233-11	ELECT	10uF	20%	16V	C301	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C120	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	C302	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C121	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	C303	1-124-584-11	ELECT	100uF	20%	6.3V
C122	1-124-233-11	ELECT	10uF	20%	16V	C304	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C123	1-124-233-11	ELECT	10uF	20%	16V	C305	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C124	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V	C306	1-124-584-11	ELECT	100uF	20%	6.3V
C125	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V	C307	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C126	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V	C308	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C127	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V	C309	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C128	1-124-234-00	ELECT	22uF	20%	16V	C310	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C129	1-124-234-00	ELECT	22uF	20%	16V	C311	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C130	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C312	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C131	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	C313	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C132	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V	C314	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C133	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V	C315	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C136	1-104-542-11	FILM CHIP	0.0018uF	5%	50V	C316	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C137	1-104-542-11	FILM CHIP	0.0018uF	5%	50V	C317	1-130-467-00	MYLAR	470PF	5%	50V
C138	1-104-538-11	FILM CHIP	820PF	5%	50V	C318	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C139	1-104-538-11	FILM CHIP	820PF	5%	50V	C330	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C140	1-104-532-11	FILM CHIP	270PF	5%	50V	C331	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C141	1-104-532-11	FILM CHIP	270PF	5%	50V	C332	1-124-584-11	ELECT	100uF	20%	6.3V
C142	1-126-382-11	ELECT	100uF	20%	16V	C333	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C143	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V	C334	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C144	1-126-382-11	ELECT	100uF	20%	16V	C335	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C145	1-124-584-11	ELECT	100uF	20%	6.3V	C336	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C146	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V	C337	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C150	1-124-233-11	ELECT	10uF	20%	16V	C338	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C151	1-115-197-11	ELECT	100uF	20%	25V	C339	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C152	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V	C340	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C153	1-128-197-11	ELECT	10uF	20%	50V	C341	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C154	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V	C342	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C155	1-128-197-11	ELECT	10uF	20%	50V	C343	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C156	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V	C344	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C160	1-115-197-11	ELECT	100uF	20%	25V	C345	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V

Ref. No.	Part No.	Description			Remark
C346	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C347	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C348	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C349	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C350	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C351	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C352	1-130-493-00	MYLAR	0.068uF	5%	50V
C353	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C354	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C355	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C360	1-124-584-11	ELECT	100uF	20%	6.3V
C361	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C362	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C363	1-163-100-00	CERAMIC CHIP	20PF	5%	50V
C364	1-163-100-00	CERAMIC CHIP	20PF	5%	50V
C365	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C366	1-124-584-11	ELECT	100uF	20%	6.3V
C367	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C368	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C369	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C380	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C800	1-128-548-11	ELECT	4700uF	20%	25V
C801	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C802	1-126-382-11	ELECT	100uF	20%	16V
C803	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C806	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C807	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C808	1-126-382-11	ELECT	100uF	20%	16V
C809	1-115-339-11	CERAMIC CHIP	0.1uF	10%	50V
C810	1-124-584-11	ELECT	100uF	20%	6.3V
C811	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C812	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C813	1-124-584-11	ELECT	100uF	20%	6.3V
C816	1-126-382-11	ELECT	100uF	20%	16V
< CONNECTOR >					
* CN101	1-568-955-11	PIN, CONNECTOR 6P			
CN102	1-691-044-11	HOUSING, CONNECTOR 12P			
CN103	1-691-038-31	HOUSING, CONNECTOR 6P			
< DIODE >					
D1	8-719-939-02	DIODE	SVC203CP		
D51	8-719-939-02	DIODE	SVC203CP		
D101	8-719-421-59	DIODE	MA3130WA-TX		
D102	8-719-421-59	DIODE	MA3130WA-TX		
D103	8-719-988-61	DIODE	1SS355TE-17		
D104	8-719-421-59	DIODE	MA3130WA-TX		
D201	8-719-210-33	DIODE	EC10DS2		
D202	8-719-210-33	DIODE	EC10DS2		
< IC >					
IC101	8-759-100-96	IC	uPC4558G2		
IC102	8-759-490-70	IC	PCM3001E-T2		

Ref. No.	Part No.	Description	Remark
IC103	8-759-161-75	IC NJM2112V(Te2)	
IC104	8-759-523-02	IC TC74HC4053AFT(E)	
IC105	8-759-648-65	IC AD1855JRSRL	
IC106	8-759-358-47	IC NJM2115V(Te2)	
IC201	8-759-666-25	IC uPD784215GC-153-8EU	
IC204	8-759-526-81	IC RN5VL42AA-TL	
IC301	8-759-643-42	IC CXD9511AQ	
IC302	8-759-582-38	IC XCB56362PV100	
IC303	8-759-491-47	IC TC74VHCT08AFT(EL)	
IC304	8-759-648-13	IC YM3436D	
IC305	8-749-923-05	IC TORX178 (DIGITAL IN)	
IC306	8-759-196-96	IC TC7SH08FU-TE85R	
IC307	8-759-082-57	IC TC7W04FU	
IC801	8-759-158-77	IC TA78057S(LBSONY)	
IC802	8-759-471-81	IC PQ05RD11	
IC803	8-759-445-59	IC BA033T	
IC804	8-759-459-99	IC PQ09RD11	
IC805	8-759-459-99	IC PQ09RD11	
< JACK >			
J101	1-784-653-11	JACK, PHONO 2P (LINE INPUT)	
J801	1-785-066-11	JACK, DC (POLARITY UNIFIED TYPE) (DC IN 9V)	
< COIL >			
L1	1-409-693-11	COIL (OSC)	
L2	1-412-961-11	INDUCTOR	68uH
L51	1-409-692-11	COIL (OSC)	
L52	1-412-962-11	INDUCTOR	82uH
L101	1-412-953-11	INDUCTOR	15uH
L102	1-412-953-11	INDUCTOR	15uH
L103	1-414-234-22	FERRITE BEAD INDUCTOR	
L104	1-414-235-22	FERRITE BEAD INDUCTOR	
L105	1-414-235-22	FERRITE BEAD INDUCTOR	
L106	1-414-235-22	FERRITE BEAD INDUCTOR	
L107	1-412-953-11	INDUCTOR	15uH
L150	1-412-953-11	INDUCTOR	15uH
L151	1-412-953-11	INDUCTOR	15uH
L152	1-412-953-11	INDUCTOR	15uH
L201	1-412-953-11	INDUCTOR	15uH
L203	1-414-235-22	FERRITE BEAD INDUCTOR	
L301	1-412-953-11	INDUCTOR	15uH
L302	1-416-668-11	INDUCTOR	10uH
L303	1-414-234-22	FERRITE BEAD INDUCTOR	
L304	1-414-234-22	FERRITE BEAD INDUCTOR	
L305	1-414-234-22	FERRITE BEAD INDUCTOR	
L306	1-414-234-22	FERRITE BEAD INDUCTOR	
L307	1-414-234-22	FERRITE BEAD INDUCTOR	
L308	1-414-234-22	FERRITE BEAD INDUCTOR	
L310	1-412-953-11	INDUCTOR	15uH
L315	1-414-234-22	FERRITE BEAD INDUCTOR	
L330	1-416-668-11	INDUCTOR	10uH
L331	1-414-234-22	FERRITE BEAD INDUCTOR	
L332	1-414-234-22	FERRITE BEAD INDUCTOR	

Ref. No.	Part No.	Description	Remark				Ref. No.	Part No.	Description	Remark			
L333	1-412-953-11	INDUCTOR 15uH					R105	1-216-081-00	METAL CHIP 22K	5%	1/10W		
L360	1-412-953-11	INDUCTOR 15uH					R106	1-216-081-00	METAL CHIP 22K	5%	1/10W		
L361	1-414-234-22	FERRITE BEAD INDUCTOR					R109	1-216-072-00	METAL CHIP 9.1K	5%	1/10W		
L362	1-414-234-22	FERRITE BEAD INDUCTOR					R110	1-216-072-00	METAL CHIP 9.1K	5%	1/10W		
L363	1-414-234-22	FERRITE BEAD INDUCTOR					R111	1-216-081-00	METAL CHIP 22K	5%	1/10W		
L364	1-414-234-22	FERRITE BEAD INDUCTOR					R112	1-216-081-00	METAL CHIP 22K	5%	1/10W		
L365	1-414-234-22	FERRITE BEAD INDUCTOR					R113	1-216-089-11	RES,CHIP 47K	5%	1/10W		
L366	1-414-234-22	FERRITE BEAD INDUCTOR					R114	1-216-089-11	RES,CHIP 47K	5%	1/10W		
L367	1-412-953-11	INDUCTOR 15uH					R115	1-216-081-00	METAL CHIP 22K	5%	1/10W		
L368	1-414-234-22	FERRITE BEAD INDUCTOR					R116	1-216-057-00	METAL CHIP 2.2K	5%	1/10W		
L801	1-469-349-11	INDUCTOR 1uH					R117	1-216-057-00	METAL CHIP 2.2K	5%	1/10W		
L802	1-416-668-11	INDUCTOR 10uH					R118	1-216-089-11	RES,CHIP 47K	5%	1/10W		
		< LINE FILTER >					R119	1-216-089-11	RES,CHIP 47K	5%	1/10W		
LF101	1-403-601-21	FILTER, COMMON MODE					R120	1-216-049-11	RES,CHIP 1K	5%	1/10W		
LF801	1-416-846-21	COIL, LINE FILTER					R121	1-216-065-11	RES,CHIP 4.7K	5%	1/10W		
		< TRANSISTOR >					R122	1-216-089-11	RES,CHIP 47K	5%	1/10W		
Q1	8-729-920-38	TRANSISTOR 2SC2059K-N					R124	1-216-021-00	METAL CHIP 68	5%	1/10W		
Q2	8-729-216-22	TRANSISTOR 2SA1162-G					R125	1-216-039-00	METAL CHIP 390	5%	1/10W		
Q51	8-729-920-38	TRANSISTOR 2SC2059K-N					R130	1-216-074-00	METAL CHIP 11K	5%	1/10W		
Q52	8-729-216-22	TRANSISTOR 2SA1162-G					R131	1-216-074-00	METAL CHIP 11K	5%	1/10W		
Q101	1-801-806-11	TRANSISTOR DTC144EKA-T146					R134	1-216-025-11	RES,CHIP 100	5%	1/10W		
Q102	1-801-806-11	TRANSISTOR DTC144EKA-T146					R135	1-216-025-11	RES,CHIP 100	5%	1/10W		
		< RESISTOR >					R136	1-216-073-00	METAL CHIP 10K	5%	1/10W		
R7	1-216-061-00	METAL CHIP 3.3K	5%	1/10W			R137	1-216-073-00	METAL CHIP 10K	5%	1/10W		
R8	1-216-063-11	RES,CHIP 3.9K	5%	1/10W			R138	1-216-073-00	METAL CHIP 10K	5%	1/10W		
R9	1-216-063-11	RES,CHIP 3.9K	5%	1/10W			R139	1-216-073-00	METAL CHIP 10K	5%	1/10W		
R10	1-216-081-00	METAL CHIP 22K	5%	1/10W			R150	1-216-296-00	SHORT 0				
R11	1-216-107-00	METAL CHIP 270K	5%	1/10W			R160	1-216-067-00	METAL CHIP 5.6K	5%	1/10W		
R12	1-216-025-11	RES,CHIP 100	5%	1/10W			R161	1-216-067-00	METAL CHIP 5.6K	5%	1/10W		
R13	1-216-057-00	METAL CHIP 2.2K	5%	1/10W			R162	1-216-082-00	RES,CHIP 24K	5%	1/10W		
R14	1-216-747-11	METAL CHIP 33K	1%	1/10W			R163	1-216-082-00	RES,CHIP 24K	5%	1/10W		
R15	1-216-596-11	RES,CHIP 2.7K	1%	1/10W			R164	1-216-082-00	RES,CHIP 24K	5%	1/10W		
R16	1-216-047-11	RES,CHIP 820	5%	1/10W			R165	1-216-082-00	RES,CHIP 24K	5%	1/10W		
R30	1-216-049-11	RES,CHIP 1K	5%	1/10W			R231	1-216-065-11	RES,CHIP 4.7K	5%	1/10W		
R33	1-216-049-11	RES,CHIP 1K	5%	1/10W			R232	1-216-089-11	RES,CHIP 47K	5%	1/10W		
R57	1-216-057-00	METAL CHIP 2.2K	5%	1/10W			R301	1-216-073-00	METAL CHIP 10K	5%	1/10W		
R58	1-216-063-11	RES,CHIP 3.9K	5%	1/10W			R302	1-216-039-00	METAL CHIP 390	5%	1/10W		
R59	1-216-063-11	RES,CHIP 3.9K	5%	1/10W			R303	1-216-039-00	METAL CHIP 390	5%	1/10W		
R60	1-216-081-00	METAL CHIP 22K	5%	1/10W			R304	1-216-039-00	METAL CHIP 390	5%	1/10W		
R61	1-216-107-00	METAL CHIP 270K	5%	1/10W			R305	1-216-039-00	METAL CHIP 390	5%	1/10W		
R62	1-216-025-11	RES,CHIP 100	5%	1/10W			R306	1-216-039-00	METAL CHIP 390	5%	1/10W		
R63	1-216-057-00	METAL CHIP 2.2K	5%	1/10W			R307	1-216-039-00	METAL CHIP 390	5%	1/10W		
R64	1-216-747-11	METAL CHIP 33K	1%	1/10W			R330	1-216-073-00	METAL CHIP 10K	5%	1/10W		
R65	1-216-596-11	RES,CHIP 2.7K	1%	1/10W			R333	1-216-073-00	METAL CHIP 10K	5%	1/10W		
R66	1-216-047-11	RES,CHIP 820	5%	1/10W			R335	1-216-073-00	METAL CHIP 10K	5%	1/10W		
R101	1-216-117-00	METAL CHIP 680K	5%	1/10W			R337	1-216-073-00	METAL CHIP 10K	5%	1/10W		
R102	1-216-117-00	METAL CHIP 680K	5%	1/10W			R339	1-216-073-00	METAL CHIP 10K	5%	1/10W		
R103	1-216-089-11	RES,CHIP 47K	5%	1/10W			R341	1-216-039-00	METAL CHIP 390	5%	1/10W		
R104	1-216-089-11	RES,CHIP 47K	5%	1/10W			R342	1-216-039-00	METAL CHIP 390	5%	1/10W		
							R344	1-216-073-00	METAL CHIP 10K	5%	1/10W		
							R360	1-216-121-11	RES,CHIP 1M	5%	1/10W		
							R361	1-216-039-00	METAL CHIP 390	5%	1/10W		
							R362	1-216-061-00	METAL CHIP 3.3K	5%	1/10W		

TX

Ref. No.	Part No.	Description	Remark		
R363	1-216-025-11	RES,CHIP	100	5%	1/10W
R364	1-216-039-00	METAL CHIP	390	5%	1/10W
R365	1-216-039-00	METAL CHIP	390	5%	1/10W
R366	1-216-039-00	METAL CHIP	390	5%	1/10W
R367	1-216-039-00	METAL CHIP	390	5%	1/10W
< CERMET RESISTOR >					
RV1	1-241-762-11	RES, ADJ, CERMET	2.2K		
RV51	1-241-762-11	RES, ADJ, CERMET	2.2K		
< SWITCH >					
S101	1-554-574-21	SWITCH, SLIDE (ATT)			
< VIBRATOR >					
X201	1-760-599-11	VIBRATOR, CERAMIC (8MHz)			
X301	1-767-878-11	VIBRATOR, CRYSTAL (12.288MHz)			

MISCELLANEOUS					

9	1-790-200-11	WIRE, PARALLEL 12P			
10	1-790-199-11	WIRE, PARALLEL 6P			